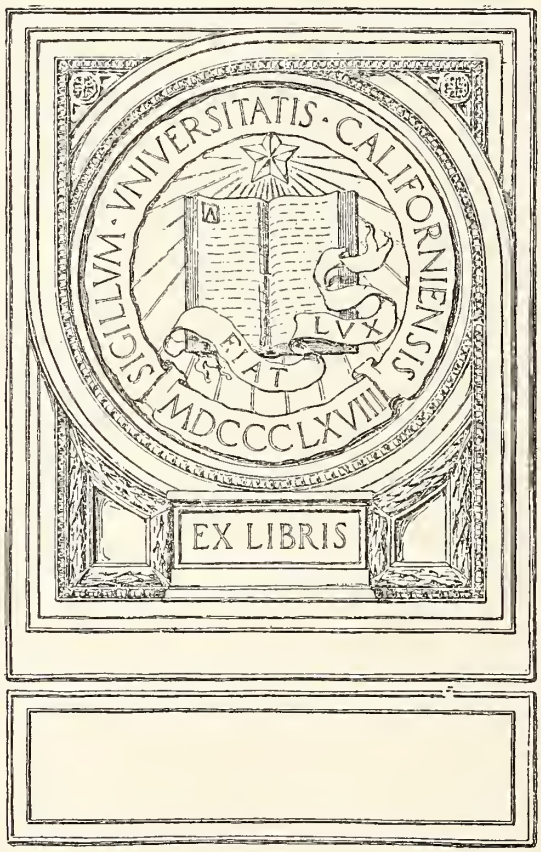
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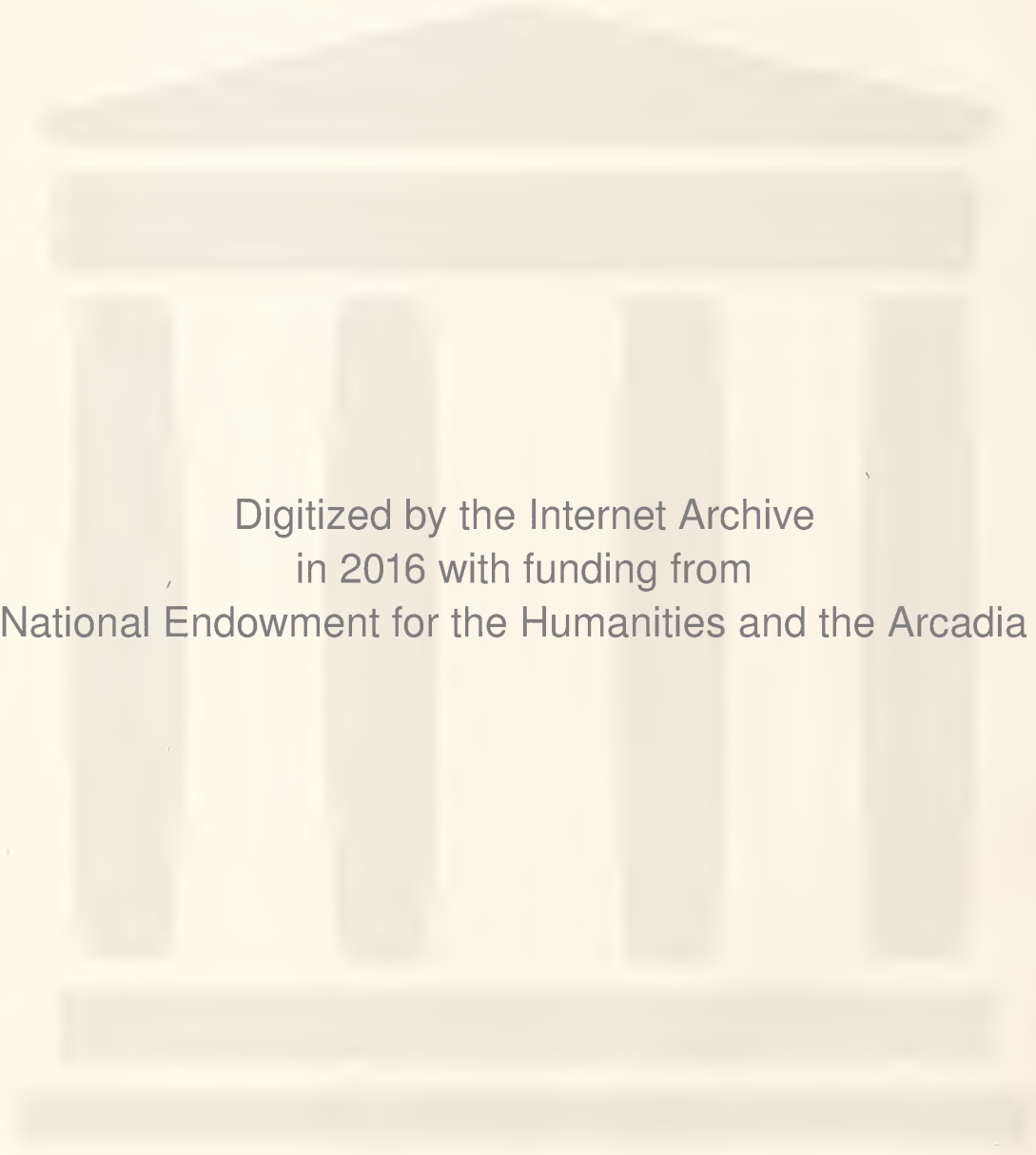
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UREMIA*

Etiology, Types and Diagnosis

L. G. Rowntree, M.D.

Professor of Medicine, the University of Minnesota

Nature shields her secrets: yields them grudgingly. The human mind is inquisitive but speculative. Theories are readily advanced: disposed of with difficulty. Theories are important because theories control therapy. Utilizing method as a fulcrum, facts are occasionally pried from nature. New facts are usually anticipated or at least ante-dated by theories. New facts must needs be considered in relation to old theories. Uremia is not lacking in either facts or theories.

Theories Relative to the Cause of Uremia—1. Retention of products of normal metabolism. Babington[1], working with Bright eighty years ago, by crude methods determined that urea was present in the blood in abnormally large quantities. Bright believed urea toxic and accepted it as the cause of the clinical syndrome which he was encountering in nephritis, and he called the condition uremia or urea poisoning. Subsequent work showed urea to be relatively non-toxic, consequently it was abandoned as the cause of uremia.

The development of studies of renal function has recently revived interest in this old subject since the fact has been established that the large majority of the cases of uremia are associated with marked increase in the blood urea. New light was thrown upon the subject by the work of Marshall and Davis[2] which showed that urea was found in practically all the tissues of the body (bone, skin and fat excluded) in the same concentration as exists in the blood, which indicates that the total urea content of the body is probably eight to ten times that of the blood.

Hewlett[3] has made an important contribution within the current year. In order to determine the toxic effects of urea in man, 100 grams of urea were taken by mouth within a few hours. "When the concentration of urea in the blood exceeded 70 mgm. per 100 cc. of blood the subject usually complained of headache, dizziness, drowiness, mental apathy, inability to concentrate attention, muscular weakness and fatigue, and slight muscular tremor." Hewlett believes that in the asthenic type of uremia the above symptoms can be justly attributed to the high concentration of urea.

Dr. Grave and I have repeated this experiment with somewhat similar results. Chart I reveals the findings in one of these experiments indicating the level of blood urea nitrogen, the output of urine and of urea, Ambard's constant and the duration and intensity of symptoms. The urea (100 grams) was taken between 10 A. M. and 11:30 A. M. Nausea was felt at 10:30, regurgitation occurred between 11 and 11:30 A. M. Headache with a dazed sensation, chilliness and inability to concentrate mentally appeared at 11:30 and persisted until 1 P. M. Headache was more severe in the upright posture. Between 10:45 A. M. and 1 P. M. four fluid stools were passed Thirst and diuresis persisted throughout the day. The most marked symptoms were encountered while the urea N of the blood exceeded 30 mgm. per 100 cc.

Chart II gives the typical results of similar experiments on dogs. Urea was fed in large quantities for a period of eleven days. At the end of four days the dogs became subdued and quiet. The following day the blood urea nitrogen was found to be 36 mgm. per 100 cc. The symptoms continued for five days and disappeared when the urea N fell below the level of 25 mgm. per 100 cc. Diarrhœa appeared in one animal. Nausea and vomiting were rather marked features.

These findings are borne out in clinical experience. Personally I have repeatedly seen acute exacerbations of uremia manifestations follow the administration of high protein diet in chronic nephritis, while on the other hand I have seen chronic uremia disappear on low protein diet.

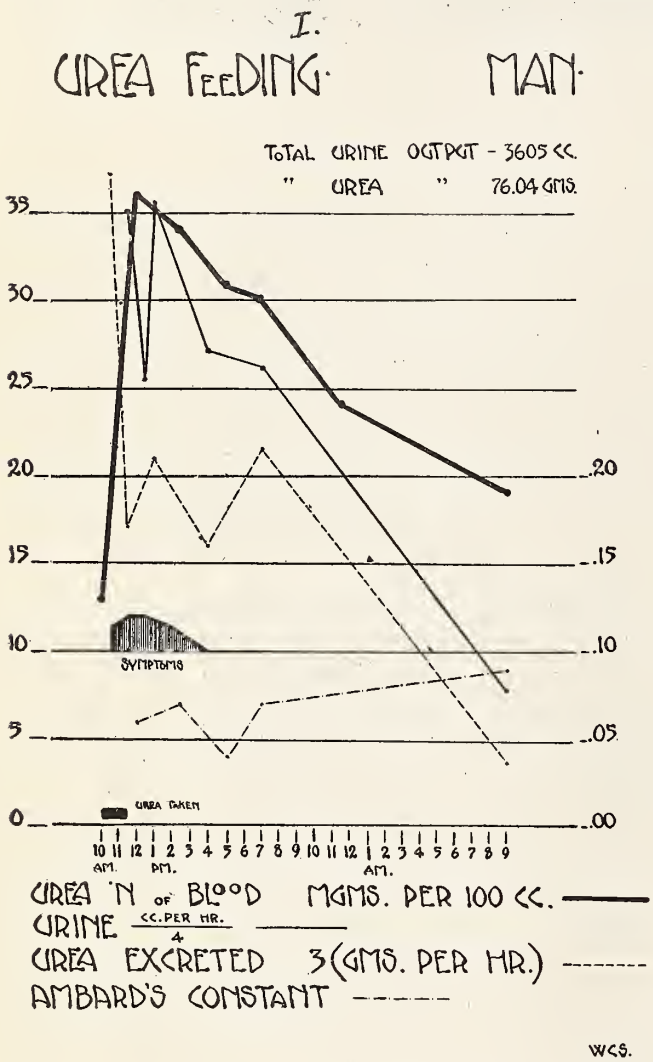
1. Babington—Bright's article on Cases and Observations Illustrative of Renal Disease. Guys Hosp. Rep., Vol. i, 1836, p. 360.

2. Marshall & Davis—Urea, Its Distribution in and Elimination From the Body. Jour. Biol. Chem., Balt., 1914, Vol. xviii, p. 53.

3. Hewlett—Abstract of Discussion. Jour. A. M. A., Vol. lxvii, No. 13, p. 939.

*Read before the Rock Island meeting of the Iowa and Illinois District Medical Association, August, 1916.

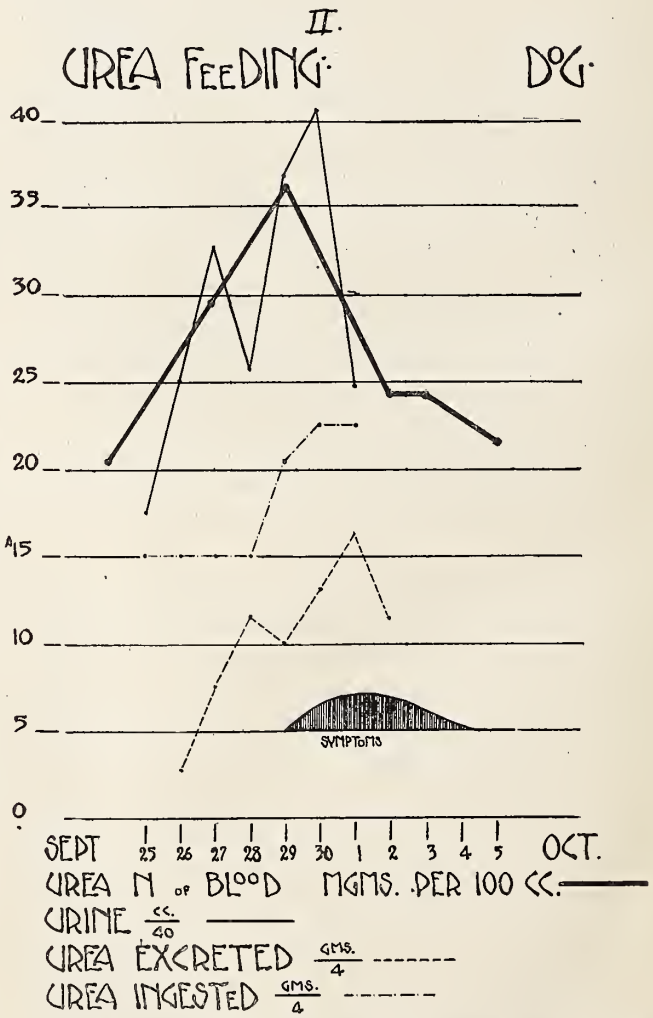
Urinary Poisoning—Clinical or experimental cases of anuria due to bilateral nephrectomy, tying off of ureter, impacted urinary calculi or mercurial poisoning yield a pure type of anuria.



Anorexia, progressive asthenia and terminal stupor are, as a rule, the only symptoms observed under these conditions. Ascoli[4] calls this condition "urinary poisoning." He differentiates it from uremia, and in this Foster[5] concurs. In origin this differs from most instances of uremia from the point of view of its sudden and acute onset with the complete retention of water and simultaneously of all other constituents of urine. In the majority of cases of uremia a selective retention is possible, the time element and different threshholds of excretion for various urinary constituents playing a role.

As the cause of uremia other urinary constituents have come under suspicion from time to time. Ammonia, creatinine, uric acid, trimethylamine, and the salts of potassium have all been considered possibilities. Recently abundant proof has been established as to the simultaneous accumulation of urea, creatinine and uric acid. The proof of casual relationship is still lacking. Dr. Grave and I are at present attempting experimentally to secure and maintain in the blood a level in these substances corresponding to that found clinically in uremia.

Hartman[6] has recently isolated from the urine a substance which he calls urinod—a bright yellow oil which gives the reactions of a cyclic ketone, to which he has ascribed the empirical formula C6H80. Urinod has the odor of urine. Normally it is conjugated in the urine. In its free state it is extremely toxic. Hartman on injecting himself with a small quantity of this substance, developed intense nausea, extreme headache, loss of appetite, restlessness, insomnia and increased frequency of urination. If this can be confirmed it will have an important bearing on the subject of uremia.



2. Products of abnormal metabolism. The possibilities of an abnormal metabolism, or of the accumulation of products of an abnormal catabolism, must also be considered. That tissue

4. Ascoli—Vorlesungen uber Uremie, Jena, 1903.
5. Foster—Uremia: A Differentiation of Types. Jour. A. M. A., Vol. lxvii, No. 13, p. 927.
6. Hartman—The Symptoms of Urinod Poisoning. Arch. Int. Med., 1915, Vol. xvi, p. 98.

Date	Alv. CO_2 mm. Hg.	pH Blood	CO_2 cap. of plasma. cc. of CO_2	Urea N.	T. n-p. N. mgm. per 100 cc. bl.	Creatinine	Phthalein & Ambard's	Remarks
4—17	29.72	7.2		97	171	—	Phth. 7%	NaHCO3 15 gms. daily
4—19	26.15	7.3	30.4	181	206	24	Trace / Am. C. 1.02	600 cc. 4% NaHCO3 I.V.
4—20	25.67	7.5	37.57	158	203	19	— / 1.09	
Before 4—22 After	— —	— 7.6	24.59 26.45	91	171	—	—	600 cc. 4% NaHCO3 I.V.
4—24	30.4	7.45	—	87	162	—	— / 0.41	
Before 4—25 After	39.4	7.3 7.45	31.7 31.94	84.5 67.	— —	— —	— —	Transfusion

breakdown does occur in uremia at times is proved beyond question. This, as a rule, appears shortly ante-mortem and may be observed in conditions other than diseases of the kidney.

Foster holds abnormal metabolism responsible for at least one form of uremia. He has isolated a highly toxic crystalline substance from the blood in a series of cases of convulsive uremia. The symptoms following the injection of animals with this substance are fecal discharges, convulsions, muscular twitchings and coma. The substance is isolated by a purely empirical method. Its constitution and nature being entirely unknown.

3. Edema of the brain, local or general. This theory is an old one introduced by Rees, and championed by Traube. Of late years it is gaining many new adherents. Fischer considers it the underlying cause in most cases of uremia. Widal and Straus are inclined to hold it responsible for at least the eclamptic type. Foster has reported three cases of uremia with practically normal renal function which, at autopsy, exhibited edema of the brain in addition to renal changes. For some years past I have felt that cerebral edema probably played an etiologic role in cases of uremia developing in so-called parenchymatous nephritis in which condition renal function approximates normal except in relation to the excretion of salt and water.

4. Acidosis. Acidosis has been held responsible. Von Jaksch[7] suggested this as long ago as 1888. Straub & Schlayer[8] and Fischer[9] particularly have recently championed this idea.

Interested in both acidosis and uremia, I have studied many cases and attempted to see a causal relationship. Taking as criteria of acidosis a diminished alkaline reserve of the blood, a decreased carbon dioxid tension of alveolar air, and an increase in hydrogen ion concentration of the blood, it must be admitted that acidosis does occur in many cases of uremia. On the other hand death from uremia may occur without any suggestion of acidosis. As a result of personal studies, I am thoroughly convinced that the acidosis is not responsible for the uremia. Table I presents the results of one of these studies. The acidosis can be corrected without the disappearance of uremia and death from uremia may still occur. Except in acute uremia I have yet to see anything but temporary relief from the correction of the acidosis.

5. Inasmuch as the existence of an internal secretion in the kidney has not been proven, and since we know practically nothing positive in nature concerning nephrolysins, theories concerning them will not be discussed.

It is interesting that we are returning to the views of Bright. We may be nearer the truth as to the cause of uremia than were he and his coworkers. We have more theories: certainly we are no more definite.

Diagnosis of Uremia—Uremia is a term used to designate a symptom-complex, the manifestations of a toxemia resulting from renal insufficiency from any cause. Accepting this as the definition of uremia, the diagnosis becomes extremely simple. In the presence of this symptom complex it is only necessary to establish renal insufficiency. The clinical manifestations of uremia are too familiar to warrant discussion before this Society.

7. Von Jaksch—Ueber die Alkalescenz des Blutes bei Krankheiten.. Zeit. f. klin. Med., 1887, Vol. xiii, p. 350.
8. Straub & Schlayer—Die Uramie eine Saurevergiftung? Munch. med. Wochen., 1912, lix, p. 569.
9. Fischer, Martin H.—The Treatment of Nephritis and Allied Conditions. Jour. A. M. A., May 13, 1913, Vol. lx, p. 1682.

Renal insufficiency is characterized by definite functional changes which are easily ascertained. The phenolsulphonephthalein excretion[10] is markedly reduced—usually to a trace, often to zero: the total non-protein nitrogen[11] of the blood is increased usually to more than 50 mgms. per 100 cc. of blood: the urea nitrogen [12] being chiefly responsible constituting from 75 per cent. to 85 per cent. of the total non-protein nitrogen: the uric acid and creatinine content are simultaneously augmented [13]: the freezing point of the serum is depressed below 0.60: Ambard's[14] constant, which indicates the ability of the kidney to excrete compared with that of a normal kidney with the same level of urea in the blood, is also increased.

In establishing renal insufficiency it is not necessary to apply all these tests. The phthalein output, together with the urea content of the blood usually yield all the information necessary for practical purposes.

Since the symptom-complex, *i. e.*, clinical uremia, is sometimes encountered in diseases of the kidney while functionally evidence of marked renal insufficiency is wanting, it becomes necessary to face the question as to what we must diagnose such conditions.

Types of Uremia—The differentiation of types is not exactly easy since many factors must be considered. Many bases of classification can be entertained, among which the following may be considered.

1. On the basis of symptoms. Emil Riess[15] has recently divided uremia into the following types:

   1. Asthenic.
   2. Psychic.
   3. Convulsive.
   4. Mixed.

He states that marked increased urea content and increased molecular concentration of the blood characterize groups one and four, but that these phenomena are usually lacking in the psychic and convulsive form. Foster, on the other hand, believes that the cases of the convulsive type "all show periods of clear-cut nitrogen retention." In addition they show an increase in the undetermined nitrogen. It is from this group that he has isolated the crystalline compound already referred to. My experience coincides largely with that of Foster but I have seen at least one case with convulsions which was considered by excellent observers as an eclamptic type of uremia in which there was no retention of nitrogen and in which renal function was practically normal. Inasmuch as arterio-sclerosis existed cerebral arterio-sclerosis could not be excluded At autopsy this was found to be the basis for the convulsions. Unquestionably many such cases have been considered uremia and perhaps they account to some extent for confusion in the literature in regard to the convulsive type.

2. On an etiologic basis, Foster[16] has differentiated the following types:

   A. Retention, urinary poisoning of ascoli.
   B. Cerebral edema type.
   C. Toxic type, or epileptiform uremia.

I find it difficult to accept this clinical differentiation between types one and three as I am convinced that convulsions occur in the ordinary retention type. The basis of classification is not constant since symptoms are brought into consideration in the last type.

3. On the basis of renal functional studies. Personally I would differentiate uremia into two types from the functional viewpoint.

First—Uremia associated with renal insufficiency, due in all probability to the accumulation of products of normal and abnormal metabolism.

Second—Uremia without renal insufficiency, in which group we have cases with disturbance of salt and water metabolism, the uremia being due to cerebral edema. This is a rare type of uremia. Certain other cases in which vascular changes are marked are frequently brought forward as uremia. Cerebral vascular changes are often responsible.

It is possible that in time we will only recognize the first group as true uremia and that physico-chemical studies will demonstrate that cerebral edema is dependent largely upon extra-renal factors.

4. According to the course of the disease.

A. Latent uremia. This is renal insufficiency in which the clinical manifestations have not yet made their appearance. The importance of its recognition is obvious. It can be exemplified by the following case:

L. G., age twelve, admitted March 27, 1911, as an interesting case of diabetes insipidus. The past his-

10. Rowntree & Geraghty—The Phthalein Test. Aach. Int. Med., March, 1912, Vol. ix, p. 284. For literature see Symposium—On the Study of Renal Function, by Christian, Janeway and Rowntree. Trans. of Cong. Amer. Physicians and Surgeons, 1913, Vol. ix, p. 1. Also Symposium on Uremia: Jour. A. M. A., Vol. lxvii, No. 13.

11. Folin & Denis—New Methods for the Determination of Total Non-Protein Nitrogen Urea and Ammonia in Blood. Jour. Biol. Chem., 1912, Vol. xi, p. 527.

12. Marshall—A New Method for the Determination of Urea in Blood. Jour. Biol. Chem., 1913-14, Vol. xv, p. 487.

13. Myers & Fine—The Significance of Uric Acid, Urea and Creatinine of the Blood in Nephritis. Arch. Int. Med., April, 1916, p. 570.

14. Ambard & Hallion—Relation Entre la Temperature do corps et l'activite Renale. Comptes. Rend. Soc. d. Biol., 1912, Vol. lxxii, p. 931. Ibid, 1912. Vol. lxxiii, p. 435.

15. Reiss, Emil—Zur Klinik und Einteilung der Uraemie. Zeit. f. klin. Med., 1914, lxxx, p. 97. Ibid., 1914, lxxx, p. 424.

16. Foster—Loc. Cit. (5).

tory contained nothing of importance except the passing of large quantities of urine and marked thirst. He was well nourished, not ænemic, apparently a normal-looking boy. His blood-pressure ranged around 100 mm. Hg. Some slight thickening of the radial arteries was noted: no definite eye changes. The urine on admission was large in amount, from 2,000 to 2,500 cc., clear, specific gravity 1005-1010. No albumin, no casts. At this time no suspicion of nephritis was entertained, although a trace of albumin had been noted once previous to admission. The phthalein test, performed March 28th, showed an output of only 7 per cent. for two hours. Three days later only 3 per cent. was excreted. With the exception of the phthalein findings absolutely no evidences of nephritis were present at this date. A week later he developed headaches, and a trace of albumin in the urine appeared. He rapidly became uremic and died April 9, 1911.

Autopsy: A most intense grade of chronic interstitial nephritis was present, with almost complete disappearance of the cortex. A slight grade of acute nephritis was superimposed.

B. Acute uremia

L. J. Johnson, colored girl, age twelve, admitted June 28, 1915. Chronic tonsillitis and chronic nephritis. Phthalein output 34 per cent. Patient comes back in the fall in uremic convulsions, phthalein output of 12 per cent, alveolar CO2 23.4 mgm.Hg., pH 7.3. Patient bled 350 cc., given bromide and chloral for control of convulsions, sweated by hot packs and given a large quantity of alkali. In forty-eight hours the phthalein returned to 24 per cent., urea nitrogen to 16 mgm. and patient showed Ambard's constant of .33, the condition of renal function being much that seen on previous admission. All manifestations of uremia and acidosis disappeared under treatment. The acute exacerbation of the nephritis subsided but the chronic nephritis persisted.

C. Uremia with progressive renal insufficiency, as exemplified by—

Collins, a young negro, twenty years of age, admitted to the hospital for chronic nephritis. On admission the renal function was fair. Functional studies were made at weekly intervals. Each examination revealed a slightly greater reduction of renal insufficiency. The patient showed a step ladder descent into absolute renal function and died a typical death in uremia. The proximity of uremia was known to us long before any clinical manifestations appeared.

D. Chronic stationary uremia.

A man was re-admitted about one year after his discharge from the hospital with a zero phthalein output. Nausea and vomiting were present from time to time throughout this entire year. The patient died on second admission with an exacerbation of his chronic uremia.

5. According to the predominance of functional or organic changes, it is extremely important to recognize whether the case is one in which the uremia is due to organic or functional changes. The development of uremia in a case of marked chronic interstitial nephritis offers little in a permanent way as a result of treatment, whereas in an identical clinical picture encountered in back-pressure kidney such as seen in cases of enlarged prostate the prognosis may be good. This is familiar to the surgeon but not as a rule to the internist. I have known of several instances where the internist and surgeon have differed as to prognosis. Following the use of the constant catheter, forcing of fluids, and limitation of nitrogen intake, uremia has disappeared and in some instances, following a subsequent prostatectomy, renal function has returned practically to normal.

These factors bear directly on the treatment of uremia since it is evident that the treatment is dependent upon our acceptance of one or the other of these underlying causes. In the vast majority of cases the treatment adopted is based on the theory of retention of products of metabolism. Indeed, I feel that it is wise to pursue this line of treatment in every case of uremia. When edema of the brain is present the question of mechanical relief of cerebral pressure may need to be considered. Lumbar puncture may be of the greatest value in cases with marked headache dependent upon cerebro-vascular changes. If acidosis co-exists alkali should be administered but only to the point of correcting the acidosis, not indiscriminately in all cases of uremia nor in the large amounts recently advocated. In every case of uremia it is our duty to determine if possible the underlying cause and to treat the case accordingly.

RENAL SUFFICIENCY TESTS*

C. Van Epps, M.D., Iowa City

The most helpful and common signs of non-surgical nephritis are obtained by repeated blood pressure readings and urine examinations. In a rough way the degree of their variation from the normal may be taken as a guide in prognosis. Since, however, the most serious cases may show neither an increase of blood-pressure or only a trace of albumen in the urine, their value as tests of renal sufficiency is much lessened. It becomes still less when we remember that extra-renal disease may produce either symptom. No subject in recent years has received more frequent attention than the so-called renal functional tests. Of these, two stand forth promi-

*Read before the Sixty-Fifth Session Iowa State Medical Society, Davenport, May 10, 11, 12, 1916.

House No.	Diagnosis	B. P.	Albumen	Urine C. C.	Phthalein %	NPN. Night		UN Morning		REMARKS
1827	Chronic	200	+++ 2mm.	900	Trace	96.6		80.4		Postmortem
1093	"	200	++ 1mm.	2500	35 20⅓	35	60.1	21.2	42.6	"
N. Y.	"	190	0		26	47.7		26.2		"
1489	"	215	+	1000	51	25.8		11.9		
1464	"	200	+	1200	45%	29.9		17.4		
1480	"	170	++++	800	6%	91		60.6		Died 2 mo. later
2770	"	180	+		42			22.5		Palpitation
2606	"	210	+	750	38			17.7		Dyspnœa
2355	"	160	+	1200	60			19		Retinitis
2298	"	170	+	725	30			23		Migraine
2170	"	150	0	700	47			11.5		
1750	"	158	+	675	46	25		15.2		Heart-Apoplexy
1805	"	140	+	600	35	40.9		24		
1703	"	130	+	650	51	33				
1777	"	130	+	800	16	25		12.8		
2656	Acute Nephritis	150	++++	1000	30			52		
2633	"	140	+	2000	30			19.5		
2522	"	180	+	1100	30			41.6		
2359	"	110	++++	450	10			42		Mercury Poisoning
2359	"		+	800	28			13		
1805	Cardiac	140	+	600	35	40.9		24		
1703	"	130	+	1700	51	33				
1777	"	130	+	800	16	25		12.8		
1750	"	158	+	675	46	25		15.2		Apoplexy
	Normal	120	0	600	65			12		

nently, viz., the phenolsulphonephthalein test of Rowntree and Geraghty,[1] and the blood non-protein nitrogen test.

Although dyes, potassium iodide and lactose, had been previously used, the attendant disadvantages prevented their general acceptance. Phthalein is eliminated rapidly and practically only by the kidneys so that its use has become universal. That the test is not infallible is shown by the fact that a fairly normal amount may rarely be eliminated by a patient dying of uremia, a circumstance very difficult of explanation.

A marked advantage of the test is its ability to reveal latent renal function. Normally one-half of our renal tissue is sufficient. The power of revealing latent function is shown by the fact that the phthalein output is usually reduced to one-half the normal figure before excretory products begin to appear in the blood in excess. The most striking recent confirmation of its value is given by McLearn[2] in its comparison with the index of urea excretion based on the laws of Ambard. The test consists of the introduction, either intra-muscularly or intravenously, of 6mgm of the dye. When given intramuscularly, the urine is collected two hours later, by which time 60 per cent should have been excreted. When given intravenously for the purpose of a comparative study of the excretory power of the two kidneys, a thirty minute period is used, in which time 40 per cent. of the dye is eliminated. The time of the appearance of the dye is not considered important. The dye containing urine turns red when made alkaline, allowing easy estimation by means of a colorimeter. The phthalein output is unaffected by diet, blood-pressure, or the use of diuretics. It reveals only the functional defect. Its prognostic value depends upon whether the pathological defect is stationery, increasing or decreasing. In cardiac decompensation cases, the phthalein output is often much reduced. Whether this is to be regarded as due to passive congestion or to an associated nephritis, depends on the variations of the phthalein output, the progress of the cardiac symptoms and the NPN readings. The degree of defect in excretion cannot be used in anatomical diagnosis. The lowest figures are found in chronic interstitial nephritis but this fact is of little value in the individual case. The value of the test is illustrated in the reported case of a boy regarded as being a case of diabetes insipidus but who was found to be passing only a trace of phthalein. He died not long afterwards of uremia, the diagnosis being confirmed postmortem. In a second case the diagnosis of uremia seemed clear, but the subsequent history of pneumonia confirmed a practically normal phthalein output.

In surgical cases the dye readings are of the greatest value. With a marked decrease, caution must always be observed. No line can be drawn below which one must not operate, this depending on the risk the operator is willing to assume. In spite of a fair dye output, extrarenal conditions may be against operation, or with a low renal output other tests may show that it is only temporary. In unilateral disease the combined excretion approaches the normal amount for both.

1. L. G. Rowntree and J. T. Geraghty. Arch. Int. Med. ix, 284.
2. F. C. McLean, Jour. A. M. A., lxvi, 415.

In a small number of cases the ureteral catheter inhibits the elimination of the dye. This is avoided if one waits until the catheter is working freely before making the injection. Experimental, clinical and postmortem evidence in abundance substantiate the value of the phthalein test. It should always be considered in relation to the other findings, remembering that occasionally the result may be paradoxical.

The second renal functional test to gain general acceptance is the determination of the non-protein nitrogen. When the coagulable nitrogenous bodies are removed from the blood, there remains a small nitrogenous residue consisting of urea, uric acid, amino acids, creatinin, and an undetermined fraction. The urea forms about 50 per cent. of the non-protein fraction. In retention cases the urea percentage is disproportionately increased. That urea was increased in the blood of nephritics has been known for almost a century and a half. Only in recent years however have the methods of determination of these non-protein bodies been sufficiently developed to be satisfactory. The non-protein nitrogen method of Folin and Denis[3] and the urease method of Marshall[4] now allow the skilled laboratory worker to make accurate and fairly rapid determinations. The blood content of these bodies varies with the diet which must be controlled before the test is made. To date most of the work has been done with the total non-protein nitrogen. Since the significance of the urea nitrogen is the same, and its determination easier, this may well be substituted. Folin and Denis give the normal non-protein nitrogen as 30 mgm per 100 cc of blood and the urea nitrogen as 15 mgm. In renal deficiency these amounts are increased usually in proportion to the defect. Foster[5] reports an average NPN of 84 in 130 cases of chronic interstitial nephritis. In frankly uremic cases, the readings are higher than in the latent cases. The convulsive uremic averages higher readings than the asthenic. The phthalein and NPN tests usually give parallel readings where organic defect is present. The discrepancy is often great in the passive congestion of cardic decompensation where a low phthalein output may be accompanied by a normal NPN reading.

Determinations of creatinin, uric acid and NH3 have also been made. Meyers and Fine[6] report that in their series of cases with lowered renal permeability uric acid retention first developed, then that of urea, and lastly that of creatinin, producing a stair case effect.

Two other renal sufficiency test methods deserve mention. One was first described by Hedinger and Schlayer[7] and has been recently reported on by Mosenthal[8]. Hedinger and Schlayer[7] studied the reaction of normal and pathological individuals to the so-called nephritic test meal. The factors studied were the elimination of water, salt and nitrogen and the specific gravity of the urine. Mosenthal reports upon 100 cases so studied. In hospital cases he employs a fixed diet. In private practice, three full meals with no intervening food is a sufficient control. The twelve-hour day urine is collected every two hours and the amount and Sp. Gr. noted. The twelve-hour night sample is collected before breakfast. The salt and nitrogen content of the total day and night urines are determined separately. The normal individual shows marked variations in the Sp. Gr. and amount of the individual day samples and of the total day and night samples. The salt and urea excess in the day sample is marked. The diseased kidney loses its flexibility so that the individual day samples show little variation while the total day and night samples approximate in all respects, a condition termed hyposthenuria by Koranyi.

The last test to be mentioned is the index of excretion of urea of McLean.[2] The test is based on the laws of Ambard, the first of which states that when the concentration of the urea of the urine is constant the rate of excretion varies with the square of the blood urea concentration. The second states that with the same blood concentration the rate of excretion varies inversely as the square root of the concentration in the urine. From these a formula has been developed that gives a normal reading of 100. The advantage of this test lies in the brief time demanded of the patient, the independence of diet and the relatively simple determinations of the urea of the blood and urine. The urine is collected over a seventy-two minutes interval in the middle of which the blood is obtained from the arm. McLean has found the readings to closely parallel those of phthalein.

Conclusions

1. The most available renal functional test is the phthalein test.
2. Its value is most conspicuous in unilateral surgical kidney, (Stone, tuberculosis, etc.).
3. In doubtful non-surgical cases, the NPN test should also be made.

3. Folin O. Denis, W., Jour. Biol. Chem., xi, 527.
4. Van Slyke, D. D., Jour. Biol. Chem., xix, 211.
5. Nellie B. Foster, Arch. Int. Med., xv, 356.
6. Meyers and Fine, Arch. Int. Med. xvii, 510.
7. Hedinger and Schlayer, Deut. Arch. far Klin. Med. cxiv, 120.
8. H. O. Mosenthal, Arch. Int. Med. xvi, 733.

I am greatly indebted to Dr. F. A. Stevens for the laboratory work upon the cases herein reported.

Discussion

Dr. L. W. Littig, Davenport—The test mentioned by Dr. Van Epps is, I believe, a splendid test in control. I tried it a number of times, and in spite of the fact that the pathologist making the examination reported the patients as inoperable because of impaired kidney function, the general condition being good the operations were made, and the patients recovered. I want to speak of a test which is quite generally used in France and is very simple—a test any man can make without difficulty and without special apparatus. Inject in the muscles of the buttocks one cc. of 5 per cent. solution of C. P. methylen blue. At the time this injection is made the bladder must be empty. Normally the blue should appear in the urine in one hour. If it appears in thirty minutes the kidney is leaking. If it does not appear for two hours the kidney is functionating badly. All of the blue should disappear in forty-eight hours. If the blue does not disappear in sixty hours, the kidney is incompetent. This is a test which is universally used by the French internists—by such men as Castaigne, Jabal, Widal and Lemiere, and recommended by them as the very best kidney test in use. It is perfectly simple, and, as stated, requires no apparatus. Going back for a moment to the test mentioned by the essayist, it is of value, but the general condition of the patient must be taken into very material consideration.

Dr. John F. Herrick, Ottumwa—This is an important subject. Since surgery has become such a large part of the practice of medicine, and especially in connection with gross, pathological conditions of organs, it becomes very necessary to know what the limitations of our work must be. There are a few organs that are absolutely essential to life. Among those are the kidneys. Men can not live without sufficient kidney structure to maintain the function of excretion. Therefore the necessity of knowing before any surgical work is done on the kidney the functional capacity of the organ, and, especially if a kidney is to be removed, the functional capacity of the remaining kidney, therefore also the absolute necessity of tests such as have been described by the essayist. I will not speak of specific tests, but simply say that the importance is so great that no surgery should be undertaken on the kidney without the functional test having been made. The tests should be made by those competent to make them, and when that is done, the question as to the possibility of successful surgical work may be settled. It may be that nothing short of segregation of the urine, that is, the separation of the excretion of one kidney from that of the other, will be sufficient for an adequate determination of the conditions present, If the removal of a kidney is contemplated, the total output of the two kidneys together may be sufficient, but possibly the diseased kidney still excretes enough urine to keep up the balance, while the better kidney alone would not be able to do it. We may have a chronic disease of the better kidney and an acute condition calling for attention on the other side. The chronic condition in one kidney may be advanced to a point where if the acutely diseased kidney is removed the patient can not live. Therefore I feel that we should more generally employ these tests and that we must be more faithful in our efforts to determine beforehand the possibilities of cure, especially in these surgical conditions.

Dr. W. B. LaForce, Ottumwa—The tests with reference to the functional value of the kidney are certainly valuable in giving us specific information, but so far as the general condition is concerned, I think we can not place too much dependence upon these tests, as has been stated by one of the speakers. During the last few months I have been interested in investigating the latent power of the organs of the body. I think it is pretty well established that the kidney is able to do from ten to fifteen times the amount of work that it is normally doing. In a very practical way I had occasion to observe this fact in a case of cystic degeneration of the kidney, probably congenital, in which the individual lived to be forty years old or more. Dr. Herrick is familiar with the case. At postmortem it was found that not one-tenth of the normal tissue remained, and yet the patient had lived an active life for a great many years, so that these tests which would indicate a decreased functioning power of the kidney, do not necessarily prohibit an operation. They are valuable to us by indicating that we should be especially helpful in guarding the kidney against any further injury, in helping it in various ways through the functions of the skin and bowels, and by diet; but they are not imperative. Determination of the value of the tests as applied to operations, is not yet possible in many cases because experience in their use has not been great enough to enable us to come to definite conclusions and categorically say in all cases that this case is suitable for operation and this case is not; they are only helpful in a general way.

Dr. William Jepson, Sioux City—I feel that there is a point in this question we should not overlook; and that is that an operation on the kidney does not imply its removal, and any operation upon the kidney that is legitimately necessary, short of removal, can be done without any danger to that patient in the sense of diminishing renal excretion. In other words, the patient presents himself to us for, we will say, any lesion that may require operative interference, leaving out of consideration now such conditions as, for example, floating kidney. We will take those lesions produced by growths in the kidney, namely: the pyelolithomas, and cancer. In the latter instance we are up against the question as to whether to let the patient die with the cancer in the kidney without operating, or removal of the kidney and letting the patient have the chance—either the chance of dying of the cancer, or dying possibly following the operation of nephrectomy due to renal insufficiency on the other side. That constitutes the only condition in which a case would demand im-

mediate nephrectomy. Suppose we find a kidney in which there is an accumulation of pus, be the condition tubercular or whatever the cause: What that patient needs for the time being is drainage. Having drained the kidney, we have ample time to determine as to whether that kidney is going to so far recover as to make removal unnecessary, or, if removal does become necessary, it will not become so until the kidney is quite largely destroyed, and then the case itself will show whether the patient will get along. Hence, I feel that we should be very careful and not allow those patients that need a pyelolithotomy to go to the grave without an attempt being made to remove the stone, simply through fear of increasing renal insufficiency to a dangerous point; in fact, pyelolithotomy does not add to the danger of the patient in the sense of increasing renal insufficiency.

Dr. C. F. Wahrer, Fort Madison—In the making of these functional tests we do not all have the skill that Dr. Van Epps possesses and perhaps not as great an opportunity to determine the results of these or other tests that have to do with the kidney output, and I dare say we all could do better than some of us do. I am not now discussing so much what the essayist said as what one of the discussers said—that when we make the tests we ought to be able to make them correctly, and interpret their findings. To illustrate, let me relate the following incident: I was present one evening where a certain medical society was holding forth and an essayist told us of numerous cases that he had had in which there was 70 per cent. of albumin. I was called upon to make a little discussion, and in referring to the 70 per cent. I inquired as to whether or not I had heard aright. "You did," was the reply. "That would make the urine about the consistency of a thick soup, wouldn't it?"—I questioned. Then the essayist took offence. Others arose and stated that they had had 30, 40 and 50 per cent. of albumin, why, lots of times, and to disprove what I had suggested in my gentle way, one went into his laboratory and got an Eschbach albuminometer, poured in an indefinite quantity of urine, and added an indefinite quantity of nitric acid, then boiled it and placed it in the test-tube, about one-half, a little less or a little more, of a whitish looking soup,—half of which would make 50 per cent., wouldn't it?" Who told him to use such a reagent as that? You see he did not know how to use his tools, nor know how to read his Eschbach. One of our patients at Fort Madison was so very sick that not a doctor there could treat her, and therefore she was sent to a "specialist" in Kansas City who found that she had 65 per cent. sugar present. The father told me about it the next day and asked my opinion, and I told him the urine must have been about the consistency of sorghum molasses in winter. Now, this may sound a little crude, but I assure you with all that veracity that I am known to possess among my friends here, that the incident related is literally true. Comment is superfluous. Aside from these considerations, we have a great many other things, which, as far as their practical application to the well-being of the patient is concerned, are just as crude, because they do not touch the point. And I want to repeat that while we may not all be able to possess the skill the essayist has, or that other men with thorough laboratory training have, many of us not even having access to large laboratories with efficient men to assist us, still we can all do better than most of us do. Of course, this means that we must know certain well-known things, and must be willing to take pains with our work.

Dr. Van Epps—I do not do any of these tests. They are carried on by laboratory men of the University, and I feel sure of their work. No one claims that these tests should be employed to the exclusion of clinical symptoms. I think the most recent tests spoken of are very helpful and are important in surgical cases. From a medical standpoint we can make some change in the diet and perhaps can make a more definite prognosis. For surgical puproses I think the phthalein test is very important. In regard to the test with methylen blue, I have had no experience with it. I find little mention of it in the literature of recent date. The phthalein test has been criticized. Braasch, of Rochester, is very conservative about the use of this test, but I think the current opinion is that these tests are very important, and that we can not afford to disregard them any more than we can disregard the knee-jerk, the reaction of the pupil, the blood count, or the Wassermann.

INTERNAL SECRETORY ORGANS*

Carl Stutsman, M.D., Burlington

It has been judicially decided that Bacon wrote Shakespeare's plays and was ashamed of his authorship. I have felt so confident that certain authors would be possessed of a like modesty in laying claim to any part of the paper about to be read to you, that I have stolen boldly and liberally from their works. While grieving sincerely over the horrors of the present European war, I hope that Drs. Biedl, Lorand, Wiesel and certain French savants are improving their opportunities for research near the scenes of activity and storing up fresh material which may provide matter for many more essayists.

When I was a college student of physiology, we were taught that the ductless glands were the ductless glands, and there was an end of it. In the past decade or so, however, one could not escape reading much about the newer theories of the functions of these glands and of all internal secretions; and within recent years, the arguments have become convincing as to the tremend-

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ous importance of this subject, and its possible bearing upon heretofore obscure problems in physiology and pathology. It seems probable that whole chapters in these departments of medical study are to be rewritten in the not distant future. "Darkest Africas" in the field of metabolism are being explored and it is well within the bounds of possibility that some eclairissement may attend the study of such little understood maladies as gout and diabetes and kindred affections. It seemed it might therefore be opportune and profitable for me to take a survey of recent literature and epitomize, for this occasion, what might seem to be the concensus of responsible opinion as to the findings resultant from experimental research along this line. I have, however, several times regretted my presumption, as there seems to be *no concensus* of opinion, either responsible or otherwise, except as to certain first principal facts and some secondary hypotheses based thereon. I have, however, attempted to set forth such data as has seemed worth while to consider, and for purposes of brevity have restricted myself to a consideration of the thyroid and parathyroids, the supra renal system and the hypophysis.

Of the ductless glands, interest first attached to the thyroid and it was the first proven to have an internal secretion. Speculation was lively from earliest times as to the function of this organ.

It is a very vascular organ, the whole circulation of the body passing through it numerous times in the twenty-four hour period. Histologically, it consists of a connective tissue stroma enclosing follicles which are lined with epithelium; these follicles contain a colloid material, rich in iodine, which is the true secretion of the epithelial cells and which passes into the general circulation.

Thyroidectomy in animals, the external parathyroids being left in situ, produces the following symptoms:

In Young Animals:

1. Retardation of growth, due to retardation of ossification of epiphyses and synchondroses, which is most marked in the long bones.
2. Imperfect development of organs of generation.
3. Enlargement of the hypophysis and great hypertrophy of accessory thyroids when present; enlarged thymus and slight enlargement of the cortex of the supra renals.
4. Pathologic change in the growth of the hair.
5. Atheroma of the aorta.
6. Reduced body temperature.
7. Swelling of the abdomen.
8. General apathy.

In Adults:

1. Lethargy and deficient muscular power.
2. Dry and edematous skin and falling of the hair.
3. Impaired digestion and finally cachexia.
4. Reduced metabolism of nitrogen and salts.
5. Marked decrease in number of red corpuscles and increase of whites.
6. In some experiments hypertrophy of and increase in number of Islands of Langerhans are shown.

These changes are the result directly of the reduced metabolism of albumen, fat and salts; indirectly of the absence of stimulation of the chromaffine system and hyperactivity of the pancreas due to the removal of an inhibiting agent.

In myxœdema and cretinism, where there is congenital absence or acquired atrophy of the thyroids, we see symptoms clearly comparable to those enumerated above after experimental removal. Both conditions are chiefly confined to specific localities in which the drinking water is derived from certain geologic formations—rendered impure by some specific contamination. Individuals resident in these districts restricted to the drinking of only boiled and filtered water, do not develop goitre. Biedl emphasizes the fact that myxœdema is to be distinguished from cretinism although the symptoms closely resemble. The antecedents of cretins are never cretins and seldom goitrous; while the antecedents of myxœdematous individuals are almost invariably cretins or goitrous, goitre being an early stage of degeneration of which cretinism is the last. The use of thyroid extract produces a remarkable amelioration of defects in both conditions and improvement is noted, regardless of age: when treatment is suspended, the symptoms return.

Thyroid extract fed to normal man in so-called physiological doses produces—

1. Lowered blood-pressure.
2. Increased diuresis.
3. Increased metabolism of nitrogen.
4. Increased excretion of calcium and phosphorous.

In very large doses we see as a result: Increased perspiration, tremor, sleeplessness, anæmia, digestive disturbances, tachycardia, and sometimes glycosuria. And yet I believe at the present time the question is sub judice whether Grave's disease is due to a quantitative increase in thyroid secretion, to a qualitative alteration, or to both.

Thyroid Function—1. It is generally believed the thyroid secretion neutralizes certain toxic products of metabolism, this process taking place in the blood stream.

2. It stimulates the sympathetic nervous system.

3. It promotes skeletal growth and development of the sexual organs.

4. It influences the functional activity of the hypophysis and supra renals.

5. It limits the activity of the internal secretion of the pancreas.

The Parathyroids—Four in number, occasional supernumeraries, particularly found in the thymus. They consist of fibrous capsules filled with a parenchyma made up of epithelial cells which contain fat granules.

Extirpation of the whole group is followed in from one to three days by tetany. The animal may die in the first convulsion or in subsequent ones several days later. In those which live several days there appear eczema, falling of the hair, albumenuria and extreme emaciation. When two glands are left intact, tetany does not generally occur, but it almost invariably follows the removal of the third; if the animal survives a considerable period, a latent tetany follows, which becomes active upon the supervention of favoring conditions; for instance, if pregnancy subsequently occurs, convulsions invariably follow.

It is now regarded by many as proven that puerperal convulsions are the result of parathyroid insufficiency. In fact, some take the ground that all forms of tetany, even of the infantile type, are due to the same cause.

Accidental removal or destruction of the parathyroids, occurring in goitre operations in the human subject, has occurred many times. Tetany results directly, just as it is experimentally produced in animals. A post-operative transient tetany may occur as the result of injury to, but not destruction of, the parathyroids.

Hypo- and hyperparathyroidism are also held responsible by some authorities for the occurrence of the pathologic conditions grouped under the term "motor neuroses" of which paralysis agitans is an example.

Favorable results have followed the treatment of post-operative tetany by the administration of parathyroid extract, as well as by the use of thyroid extract. Administered to the normal individual, parathyroid extract produces increased intestinal peristalsis, increased muscular contraction of the uterus and enormously increased diuresis. That thyroid extract ameliorates the condition produced by removal of the parathyroids, is evidence of the close interrelation between the two, but the exact nature of this interrelation has not yet been worked out. It is certain that the parathyroids have much to do with the metabolism of calcium.

The Supra Renal System is a result of the combination of two different and independent organic systems. The glands comprise a medulla and a cortex, the former being known also as the adrenal or chromaffine substance and the latter as the interrenal. There are certain more or less numerous accessories, of which the carotid gland is an example, which contain both chromaffine and interrenal cells; others in the neighborhood of the kidneys, in the genital region and occasionally in other parts of the abdomen, contain only interrenal cells; while the chromaffine cells are widely distributed throughout the whole body in connection with the sympathetic nerve ganglia; in fact, the chromaffine cells are derived from the same primordial beginning as the sympathetic nervous system. By far the larger portion of the interrenal substance is contained within the capsule of the suprarenal glands; while probably the larger portion of the adrenal or chromaffine tissue is found outside of these capsules.

Nothing whatever was known of the physiology or pathology of these organs until Addison, in 1855, described the disease which bears his name, described the postmortem findings, and advanced the theory that death in this condition is due to suppression of the supra renal function. Since then, there has been industrious investigation and experimentation upon animals in an effort to demonstrate the physiology of these organs, with some success, although there is much yet left to be explained.

That the supra renals are essential to life has been proven. The removal of one gland produces no untoward symptoms, the remaining supra renal and the accessories becoming hypertrophied and vicariously replacing the function of the removed organ. Extirpation of both supra renals is, as a rule, followed by the death of the animal of any species within a few hours or days. Partial removal, that is the removal of the whole of one and part of the other, or of parts of both organs, may be without result or may cause death, depending upon the amount of tissue damaged. It would seem that, roughly, about 25 per cent. of the gland tissue together with the accessories, may be sufficient to sustain life

When both organs are dislodged by one operation and allowed to heal in under the skin, and then removed subsequently by a second minor operation, the results of suppressed secretion may be observed without the complicating symptoms following a severe operation *per se*

Such an animal appears quite normal a few hours after the operation. Upon the second or third day it loses appetite; later it becomes apathetic, refuses food and ceases to move about;

there is muscular weakness and stiffness and uncertainty of movement of the hind legs; extreme prostration and paresis of the hind legs ensues; the temperature is very low; respiration becomes difficult, the heart irregular and the animal dies in four to six days after operation. It is found in these animals that the metabolism of nitrogen is unchanged, but the sugar content of the blood is constantly diminished.

Supra renal suppression in man may occur as result of hemorrhage into the organs and the symptoms resemble these described above. Treatment by substitution has given doubtful results. Success has not attended attempts to produce in animals the chronic degenerative change seen in Addison's disease; but treatment by substitution has been attempted in this disease. In some cases harmful results were produced; in some there was amelioration of certain symptoms, and in rare instances complete recovery is reported; in the majority of cases the results were negative.

Nothing exact has been worked out as to the nature of the secretion of the cortical substance nor of its functions; it seems probable, however, that it has a secretion which has an important influence upon the growth of the body, the development of the sexual glands and some of the changes which take place at puberty.

As to the medullary portion, however, it is definitely shown that it secretes adrenalin—a substance which can be synthetically compounded. Therefore, the physiological effect of adrenalin upon the human animal throws considerable light upon the function of the chromaffine cells, and it is made plain that its activity is necessary to a normal function of the entire sympathetic nervous system. Given intravenously its effects are:

1. Increase in the blood-pressure as a result of contraction of peripheral vessels—those vessels inhibited by the splanchnic nerve being primarily affected.
2. Slowing of cardiac rhythm—probably a result of stimulation of that portion of the sympathetic which promotes cardiac activity.
3. A general muscular relaxation of the alimentary tract.
4. Violent contractions of the uterus.
5. Dilatation of the pupils.
6. Profuse secretion of the salivary glands and the mucous glands of the mouth, œsophagus and trachea; of the lachrymal glands and increased secretion of bile.
7. Increase in metabolism of salt and of carbohydrates with the production of glycosuria.

Large single doses produce death; repeated smaller doses atheroma of the aorta (from which fact, the theory is advanced that hypertension in chronic Bright's disease and arterio-sclerosis is a result of hypersecretion of the chromaffine system).

It is assumed hypothetically that the medulla and the cortex have a homogeneous activity. Some authors believe that certain products of metabolism, the result of muscular exertion, are neutralized by the cortex, and that from the material thus supplied, adrenalin is elaborated by the medulla. It seems proven that adrenalin has an inhibitory influence upon the internal secretory activity of the pancreas and that this secretion of the pancreas limits to some extent the action of adrenalin; that the thyroid promotes adrenalin activity while the parathyroids inhibit it and vice versa.

The Hypophysis has two lobes, the larger anterior one represents the epithelial or glandular portion; the posterior the nervous portion. The cells of the anterior lobe contain fat granules which are regarded as a product of cell activity; a colloid substance has been demonstrated between the cells, in the vesicles and in the lumen of the gland capillaries, which is regarded as a gland secretion which empties into the circulation.

Extirpation of the whole gland or of the anterior lobe in the adult animal produces death; removal of the posterior lobe has negative results. In young animals, however, total extirpation is compatible with a longer duration of life and is attended by—

1. Backwardness in growth.
2. Atrophy of the genital glands.
3. Deposition of a considerable amount of fat.
4. General apathy.

Intravenous injection of pituitary substance produces—

1. Marked increase in arterial pressure, due partly to contraction of the vessels and partly to increased cardiac activity. This hypertension resembles that produced by adrenalin, but is of longer duration.
2. Contraction of muscles of the uterus and bladder.
3. Increased diuresis.
4. Hyperglycæmia and glycosuria.

It is a curious fact that, when extracts are made of the organs of dead animals, that of the anterior lobe, which is essential to life, is inert when injected into living animals; while that of the posterior lobe, which may be destroyed in the living animal without untoward symptoms, produces the definite and characteristic effects enumerated above.

Acromegaly—In this condition pathological changes in the hypophysis are almost constantly found. In 109 of 118 cases there was enlarge-

ment and in the majority of them there was either adenoma, adeno-carcinoma, or sarcoma. It occurs usually in adults; there is impotence in males and amenorrhœa in females; apathy and somnolence; enlarged and distorted face (prominent eyebrows, thickened eyelids, enormously enlarged nose, swollen lips and swollen tongue): The hands and feet become larger and broader, partly due to thickening of the soft parts and partly to overgrowth of the terminal phalanges. In an advanced stage there are the symptoms common to cerebral tumor. Glycosuria is frequent. Death is due to intercurrent affections or to progressive emaciation and cachexia.

Complete cure and disappearance of all symptoms have sometimes followed operative removal of the hypophysis.

Gigantism is characterized by longitudinal overgrowth of the long bones, usually commences at puberty and overgrowth may continue up to age of thirty: the lower extremities are chiefly affected. Usually the skeletal changes characteristic of acromegaly, as well as sexual atrophy, are also present; glycosuria or even diabetis is frequent. Those cases which have gone to autopsy showed enlarged hypophysis.

The above two conditions are believed to be due to hyperpituitarism. On the other hand, hypopituitarism is held responsible for the adiposa dolorosa described by Frölich. This condition is characterized by enormous obesity; trophic disturbance of the hair and nails and genital atrophy.

Other organs which are known to have an internal secretion are the thymus in the child, the pancreas, the genital glands, the gastric and intestinal mucosa, the kidneys and the spleen. There is much yet to be developed as to the functional significance of internal secretions, but their importance we know is enormous, and it is well to keep in mind that organotherapy has definite possibilities.

Discussion

Dr. John F. Herrick, Ottumwa—We are not sufficiently informed on this subject to give a final answer. It deals with fundamental physiological subjects. These glands are fundamental in their function. I believe that it is well for this Society, from time to time, to consider physiological matters. The foundation of all medical and surgical practice is anatomy and physiology. While anatomy is important, it must be supplemented by a knowledge of physiology both normal and pathological. These studies should be encouraged and should be prosecuted by every individual member of the Society if they wish to make themselves the scientific, successful physician that we all hope and desire to be. There is some regulating center or organ of the body. It is not the liver, it is not the kidneys, it is not the heart; they are all doing detail work, neither is it the cerebrum or cerebellum, they have their special functions. The important question still remains—What is that central organ that regulates all these other organs in their detail work? In olden times the pineal gland or possibly the hypophysis was thought to be this center, the "Seat of the Soul" as it was called. After heaping ridicule upon this belief for many years, physiologists have really come back to admit the possibility that some one of those gland-like organs at the base of the brain may be the center from which radiate the impulses that have to do with the processes of life. Whether that is true or not I do not know, but it is so important a physiological subject that we ought to encourage any discussion that will lead to light along this line. Therefore I am glad to have a paper introduced on the subject. I feel that the essayist has not answered our question, but possibly through his efforts we may be stimulated to further discussion as to what is the regulating center and what it is that governs all these other organs in their detail work. If it is the hypophysis, it is well to know it. We know the thyroid is not that center, although the thyroid actuates the suprarenals, and the suprarenals, as the Doctor says, have to do with oxidation and blood-pressure, all of which is brought about by the action of the autonomic nervous system. The parathyroids are in like position. There is really only one organ that has not been ruled out, and that is the hypophysis. Whether or not that is the center of the impulses that govern the entire body is still open, but it seems that we are coming to that idea.

Dr. E. H. King, Muscatine—I understood the essayist to state that in cases of acromegaly there was degeneration of the sexual function. Several years ago I was called in consultation in a well marked case in which the wife of the patient said to the contrary; that during his affliction he was extremely addicted to the sexual act. Now, this was only one case, but it improved under thyroid treatment.

Dr. C. F. Wahrer, Fort Madison—It seems to me that this subject is an old story that is ever new. You will recollect that some time ago Ponce de Leon searched for the fountain of youth, and later on there was an English crank, or an American crank with a French name, Brown-Sequard, a hyphenated citizen, who talked about the elixir of life in these organs, that might be injected into or administered to people that were deficient. We thought he was a crank and let him die that way, and yet, "coming events cast their shadows before," and today the dream of the elixir of life of Brown-Sequard and others has become a verity. The influence of these organs over our physical life reminds me of the talk about the inter-locking directorates in the trust companies. Here are the thyroids and the adrenals and the thymus, while back in and under the brain is appended that thing which we now call

the hypophysis or pituitary, and we have found that it is a double gland, one part working one way and the other, the other way. And I want to say, all trivial ideas aside, that these are the things that must come up almost every day and appeal to us in the treatment of disease. It requires not only education, learning and knowing the bare facts that exist in relation to these things (and we have not got them all yet), but a knowledge of their functions coupled with sound judgment enables us to use these facts in the treatment of diseases. I am glad this paper has been read, because it reminds us all of the importance of these organs. But we must not go wild on organotherapy until we know more about the functions and their mutual relations and influences upon the autonomic nervous system.

Dr. G. E. Crawford, Cedar Rapids—The day before the meeting I received a letter from the chairman of the medical section requesting me to discuss Dr. Stutsman's paper. I did not have opportunity to see the paper, and unfortunately heard only the concluding part of it. The subject is one that is too deep for the average man to discuss without preparation, and because of that fact I think I can do no better than read the concluding page of an oration which I had the honor to present to this Society a few years ago upon this subject and drawing conclusions which were somewhat hypothetical at that time, and not yet definitely settled, but I believe the problem is now being solved: One of the most important advances ever made in medicine was the discovery of the internal secretions of the ductless glands, and the prominent role they take in the process of both metabolism and immunity. The first lecture I ever heard, as a medical student, was on the ductless glands. The whole subject was covered in a single hour, and consisted of their description and gross anatomical relations. Not the first suggestion of any function was then known,—nor for many years afterwards. We now know that every one of these organs produces a secretion of the most vital importance to the body. Furthermore that they are correlated into a system by a delicately adjusted nervous connection, which constitutes the administrative and police department of the economy. While these processes are very intricate and not yet fully understood, it is practically certain that the chief function of the adrenals is to supply an internal secretion, which in connection with the hemoglobin, absorbs and carries oxygen, and is thus the main factor in pulmonary and tissue respiration; and is the "dynamic element" in the vital processes of metabolism; and "controls the bacteriolytic and antitoxic powers of the blood and its phagocytes." That the secretions of the thyroid and para-thyroids have directly to do with the formation of the opsonins and agglutinins of the blood; and jointly with the adrenal secretion also activate the processes of metabolism, especially the processes of growth and development. Of still greater importance is the discovery of the center of control of all these autoprotective resources of the body, and the whole mechanism of metabolism. It is found in the pituitary body. The pituitary body, until recently considered a vestigial organ, of little importance and of no known function, is now known to be one of the most highly differentiated organs in the body, and the most important in its dual capacity, that of the governing center of all the vital functions; and the sensitive test organ" or "osphradium,"—which latter we inherited from our marine ancestors, when sea-water was the circulating fluid instead of blood. The pituitary body, the adrenals, and the thyroid and para-thyroids, thus functionally united, for "The Adreno-Thyroid system" and "constitute the immunizing mechanism of the body." The anterior pituitary body contains the test organ which detects the presence of a poison or irritant in the blood, and through the governing center in the posterior lobe, transmits this impulse to the adrenals and thyroids which excites the protective activities of these organs. These are the foundations of the "New Medicine," Metabolism and Immunity. In the light of these discoveries, diseases divide themselves essentially into two classes: Derangements of metabolism, and infections. With this view of metabolism and the very important part the internal secretions perform in these most intricate processes, it is the problem of the "New Medicine" to assist Nature in maintaining the equilibrium of these vital movements. We have a suggestion of the possibilities of these measures, in the astonishing effects of thyroid extract in cretinism; and the almost equally salutary effects of adrenal substance in Addison's disease. In infections, "immunizing medication is the foundation of rational therapeutics;" a therapeutics which can govern the efficiency of the defensive mechanism of the body. In this we are not confined alone to artificially prepared specific vaccines and antitoxins, valuable as they are when definitely worked out like that of diphtheria antitoxin, but it has been found that some of the best known drugs of the Pharmacopeia, which have been employed empirically for centuries, are active stimulants of the auto-protective functions of the body, and owe their efficiency to that action. The old medicine is the collaborated empiricism of the ages. The new medicine is the dawn of scientific rationalism. We are only at the beginning. What we need is a constructive therapeutics in accordance with these new principles. While we as yet are obliged to practice largely in the old, we think in the new and look forward to the time when all of these processes will be as completely under our control as some of them are now.

Dr. Stutsman—I will not prolong discussion of the paper, but wish only to refer to Brown-Sequard, who was mentioned by Dr. Wahrer. All honor is due to Brown-Sequard in connection with this subject. Some twenty-five years ago he read his paper giving the result of his experiments upon himself in the use of testicular extracts, which paper was really the commencement of modern investigation of the internal secretory glands. Brown-Sequard is really father of the modern ideas in regard to the internal secretions.

PYLORIC OBSTRUCTION IN INFANCY*

C. A. Waterbury, M.D., Waterloo

The title of this paper is self-explanatory, in that it aims not only to consider true congenital pyloric stenosis, but the so designated "spastic type" as well.

My reason for presenting this subject for your discussion is its growing importance as a distinct disease entity; also, the unquestioned fact, that it is by no means as rare as we have perhaps in the past believed, and that these babies, normal and robust in every other way as they usually are, have a right to live, and once relieved of their pyloric insufficiency, are not pathological babies but rapidly develop into normal children with far less predisposition to future gastro-intestinal disturbance, than is observed in the marasmus and malnutrition cases.

The relative frequency with which pyloric obstruction occurs, is hard to definitely establish, but the study of the literature leads one to believe that Hill's[1] estimate of one case in every two hundred babies is not greatly overdrawn.. Conditions which we meet infrequently, we most frequently overlook, and while many series of cases have been reported by pediatricans and frequent isolated cases from the rank and file in general practice, it is more than possible that the life histories of a larger series have been reported by mothers in the simple statement, "we could never find anything to agree with the baby."

While it is of exceeding interest to follow in review the published literature of this subject for the past decade and mark the gradual evolution of pediatric thought, it is sufficient for our purpose to note a few historical facts and present to you as briefly as possible the essential, pathological and diagnostic conclusions which have become crystallized from a maze of one time conflicting opinions.

While Beardsley (1788) has received credit for reporting the first case of congenital pyloric obstruction, some doubt obtains, and the credit is perhaps more justly due Williamson[2] who, in 1841, described a typical case, verified by autopsy.

Landerer in 1879 was first to designate such a case as being congenital pyloric stenosis.

Scientific investigation and modern study of this condition had its inception with Herschprung who reported two cases with autopsy in 1887, recognizing and pointing out the pathology as being muscular hypertrophy. The first American case was operated by Willy Meyer, in 1898. The first successful gastro-enterostomy was by Löbker in 1898.

The etiology of this condition is best described as being unknown, designated by Hutchinson[3] as a morbid mystery. There still remain many points to be made clear by future research and investigation; for instance, its greater frequence of occurrence in males, 80 per cent.; its selection of the first born, rather than later born children, and unlike other gastro-intestinal diseases, it almost invariably develops while the child is being breast fed.

These babies, at birth, are almost always unusually well developed and well nourished, their weight averaging above normal to a marked degree, and aside from their pyloric insufficiency, they present no other manifestation of prenatal disturbance.

Family histories are usually barren of any illuminating factors. In a few instances only has there been a prior occurrence in the same family noted.

While the etiology of pyloric obstruction has stimulated much purely theoretical discussion, its pathology and especially the physiological interpretation of existing pathology, has been the one stumbling block resulting in the clinical recognition of two types of pyloric obstruction, namely, a spastic or so-called pylorospasm type, and a true congenital pyloric stenosis, due to hypertrophy of the circular muscle fibers of the pylorus.

That true complete hypertrophic stenosis of the pylorus occurs, is proven by autopsy and laparotomy, and Cunningham has demonstrated the condition in fetal cadavers.

That cases, observed by Pfaundler, Rotch and others[2], clinically presenting every phase of complete stenosis which revealed on autopsy a normal pylorus, proves the existence of pylorospasm persisting over a sufficiently long period of time to cause death.

But that simple spasm of smooth muscle fiber results in hypertrophy, has not been proven and is not a logical explanation of the well established fact, that the true hypertrophic stenosis case presents no symptoms for days and usually weeks after birth.

Descriptively speaking, the pyloric stenosis case presents at autopsy or laparotomy, the following characteristic morbid anatomy:

There is observed not only the division of the pyloric region into a pyloric vestibule and pyloric canal (always well marked in infancy) but in addition, an apparent overgrowth of the pyloric canal forming a tubular mass about three c.m.

1. Surgery Gynecology and Obstetrics, Vol. xviii, 5.
2. Archives of Pediatrics, November, 1914.

*Read before the Sixty-Fifth Annual Session of the Iowa State Medical Society, Davenport, May 10, 11, 12, 1916.

long, pale in color, and of seeming cartilaginous consistency which projects into the duodenum as described by Hutchinson[3], much as the cervix projects into the vaginal canal.

Microscopical examination reveals the thickened, indurated tissue to be a hyperplasia of the circular muscle fibers with some involvement of the longitudinal fibers and connective tissue, the mucous membrane remaining normal.

Earlier writers were prone to ascribe this condition of hyperplasia to overwork as the result of spasm, which seemed to explain the comparatively late onset of symptoms, as well as the established fact, that if these babies live long enough they get well.

Many cases with a positive diagnosis in which a tumor had been palpated by competent observers, have lingered along until three or four months of age and suddenly cease vomiting, have milk stools, gain weight and recove. But the present trend of opinion is to regard the hypertrophy as being congenital, and a true stenosis.

Grulee and Lewis[5] have shown (conclusively) by autopsy, months after recovery and late radiographic study, that the stenosis remains complete after ideal conditions of pyloric rest have been established by gastro-enterosotomy.

Downes,[4] in a late article reviewing sixty-six personal cases, all having the characteristic tumor, has this to say:

"The theory that best explains the sequence of events in this disease is that a true malformation exists at birth, causing an abnormal thickening of the circular muscle of the pylorus, and that the effort necessary to force food through the narrowed lumen, produces circulatory disturbances resulting in œdema. As the food increases in amount and muscular effort becomes greater the lumen narrows down until complete obstruction ensues."

Downes, also quotes Holt as saying, "definite persistent pylorospasm without hypertrophy is yet to be proven."

If we may accept this as a true interpretation, it would seem that a diagnosis of pylorospasm, like the Ochsner treatment of acute appendicitis, gives a false security and leads to dangerous procrastination and loss of life.

While not denying the occurrence of spasm of the pylorus, Holt and Downes favor a classification into mild and severe types of congenital stenosis, which makes possible a more careful diagnosis and a more consistent treatment.

The symptoms and cause for this disease are the logical sequence of the foregoing pathology, and while an obstructed pylorus is as much an obstruction as if at any other point of the intestinal tract, all symptoms of toxemia are wanting, due to its purely mechanical character and the absence of strangulation. A case of pyloric stenosis once recognized presents a picture so definite, clear cut, and distinctive that a failure to diagnose even a mild type should never occur provided every case of vomiting in infancy be given a little time and a consistent examination.

In fact, the symptoms and their sequence are as classical as those of acute appendicitis.

a—Persistent recurrent vomiting.
b—Starvation stools and diminished urine.
c—Visible gastric peristalsis.
d—Palpable tumor.
e—Bulging epigastrium with retracted abdomen.
f—Progressive loss of weight.

These babies are usually good babies, suspiciously good. An infant suffering from pure starvation, and nothing else, is always good.

The onset of vomiting is usually abrupt, but variable as to time, seldom before the second week and rarely delayed beyond the sixth week. It is, at first, regurgitant in type and occurs while nursing or shortly after; at first, only the amount taken is vomited and it is repeated after each feeding. Later, the vomiting becomes less frequent and the infant vomits more than is taken at a feeding, and we have the cumulative, projectile type of vomiting, which is characteristic of this disease. Closely following the onset of vomiting, we have marked constipation and diminished urine. Stools are obtained only by enema or suppositories and are typical of starvation, small, thin, brownish, mucoid evacuations resembling meconium. Occasionally they are green but do not contain milk residue.

Visible peristalsis occurs in almost every case and is the most conclusive symptom, being, in fact, pathognomonic.

The waves are painless, travel from left to right, are distinctly visible, occur most frequently during or immediately after nursing, and may be elicited by light direct percussion over the stomach. Associated with visible peristalsis are contractures of the entire stomach resembling greatly a contracting uterus.

A palpable tumor may be usually felt midway between the navel and the free border of the ribs, a little to the right of the median line, and is about the size and shape of the distal phalanx of the little finger. Inability to find it, however, does not exclude stenosis. In late cases the abdomen often presents a striking contrast between

4. Surgery, Gynecology and Obstetrics, Vol. xxii, 3.
3. British Medical Journal, October 8, 1910.
5. American Medical Journal, Vol. lxiv, 3.

the bulging epigastric region and the emaciated lower abdomen.

Loss of weight depends upon the degree of stenosis but is progressive and sometimes exceeds one ounce daily.

The history and clinical findings are usually sufficient for even an early diagnosis; however, aspiration of the stomach is of decided value. The child should be given a measured quantity of breast milk following lavage, preferably through the stomach tube, as the act of nursing provokes vomiting, and the stomach contents aspirated four hours later and the amount of retention noted. Perhaps the most valuable aid is the bismuth meal and subsequent series of radiographs over a six or eight hour period of time and in skilled hands, the duodenal tube designed by Hess, is of undoubted value as not only can obstruction be determined, but its degree fairly well estimated in many instances.

The prognosis is entirely dependent upon three factors:

1.—The degree of obstruction.
2.—An early diagnosis.
3.—The treatment instituted.

It is agreed by all observers that there is a marked tendency to spontaneous recovery in the less severe types of stenosis and that even cases with marked insufficiency, do sometimes recover without operation which must be due to compensation as all evidence contra-indicates the disappearance of hypertrophy, also, that when a clinical recovery does take place, there seldom, if ever, is any recurrence, although food retention and hyperacidity persists for an indefinite period of time.

The treatment of congenital pyloric stenosis is both medical and surgical and the choice of treatment in each case must be decided upon the one most vital, and perhaps most difficult, point of diagnosis. Is the existing pyloric insufficiency great enough to immediately, seriously endanger life? Bearing in mind that the medical treatment involves the most painstaking attention to every detail of care and feeding over a long period of time, and that while there does exist a strong natural tendency toward improvement if the patient can be tided over the first four months of life, on the other hand these babies often collapse and slip out when least expected.

As regards the prognosis under surgical treatment, few physicians realize how well these little patients tolerate gastro-enterostomy or modified pyloroplasty, provided operation follows an early diagnosis and is performed rapidly with the most gentle handling of tissues under the stimulus of a smooth ether anesthetic, careful attention being given to maintaining body heat during and following operation.

Statistics are unreliable as a guide to the choice of treatment. Hutchinson[3] reports seventeen cases treated medically in private practice with no deaths and sixty-four hospital cases under the same treatment with a mortality of 78 per cent.

Until recently, the average mortality in cases treated surgically, was approximately 50 per cent., probably due to the fact that few cases were submitted for operation until medical and expectant treatment had failed to alleviate, and a fatal termination seemed inevitable.

More recently, the combined mortality of three series of cases reported by Richter, Scudder and Downes[4], totalling sixty-one cases, was 22 per cent. While this seems high, it must be remembered that these were mostly hospital cases, many being in a critical condition at the time of operation.

Grulee and Lewis (personal statement) believe all babies in good condition at the time of operation should recover. In fact, the consensus of all unbiased pediatric opinion at the present time, is favorable to the early operation of well-marked cases of pyloric stenosis; and in advising treatment of such cases, the consideration should be, not what case should be operated, but rather, what case may with safety be given medical treatment. In that category, I should place those cases which are not losing weight, whose vomiting is of the regurgitant type, with infrequent attacks of projectile vomiting, who have at least every forty-eight hours a milk stool, and in which it is possible to demonstrate by aspiration or rontgen ray examination four hours after feeding, that an appreciable amount of food is passing the pylorus.

Given such a case, the medical treatment resolves itself into a systematic endeavor to allay vomiting and increase gastric tolerance for larger quantities of food, and secure the retention of food in amount sufficient to provide enough calories for maintaining heat and energy.

These requirements are best secured by lavage followed by an initial period of twelve or twenty-four hours starvation, water to be given freely. The infant is put to the breast for a short nursing period (three or four minutes) at long intervals, eight hours at the beginning, with water freely between feedings. The intervals between nursings are gradually shortened and the nursing periods gradually increased until the infant is taking three or four ounces every four hours. This may require a number of days for its accomplishment and as long as there is food retention, the stomach should be lavaged twice a day.

If vomiting persists under this regime, the breast milk should be drawn and administered through a stomach tube, as the act of nursing excites peristalsis and provokes vomiting. Often skimmed breast milk will be retained when milk of normal fat content is rejected. In some instances, mixed feedings are of decided benefit, using diluted, fat-free milk, with the addition of sodium citrate (grains two in each ounce), and given once or twice during the twenty-four hours.

No arbitrary rules can be followed. Success depends upon individual judgment and painstaking supervision of every detail.

Drug treatment is of doubtful value, although small doses of opium and fair doses of atropine should be of value.

As regards the surgical treatment, whether it be gastro-enterostomy or modified pyloroplasty depends upon the skill and experience of the operator, and the discussions of surgical technique is not a proper part of this paper.

But in conclusion, I would suggest, that the occasional operator who requires an hour and a half for gastro-enterostomy, who must needs paw over the contents of the abdomen in search of anatomical land-marks and do a great deal of sponging, will have a frightful mortality.

Conclusion of Dr. C. A. Waterbury's paper, while three X-ray pictures were being shown:

This baby, which is perhaps a typical case of severe type of pyloric stenosis, weighed nine pounds at birth, was perfectly normal in every respect until three weeks old, when occasional vomiting of regurgitant type began. The baby lost fourteen ounces during the fourth week, gained three ounces the fifth week, began having projectile vomiting the sixth week, and these pictures were taken the day the baby was six weeks old. These are positives rather than negatives, and they show the enormously dilated stomach, which, by the way, is not characteristic of pyloric stenosis. Some cases have a greatly dilated stomach, while other cases have a normal stomach or even contracted stomach. These pictures were taken after a bismuth meal.

Discussion

Dr. William Jepson, Sioux City—I do not arise to discuss this paper, because my experience in the management of congenital pyloric stenosis in children is indeed a very limited one, as I have seen but four cases. Three of these cases were operated, two recovering, and the fourth case died without anything in the way of operation having been done. I do not know how frequently this condition occurs excepting as gained through perusal of the literature. If the statement of the essayist is correct as to the findings of others, as a profession we are guilty of allowing a great many of these children to enter an untimely grave; and while this subject has been presented by Dr. Waterbury in a most masterly way and the anomalies clearly pointed out, aside from that fact the great value of the paper is in calling the attention of the profession to a condition which I feel we were tending to overlook, as we have in the past overlooked many other conditions until the frequency of their occurrence caused them to become firmly fixed in our minds. I have no doubt that quite as many children have died of unrecognized congenital pyloric stenosis, as have died of unrecognized intestinal obstruction. Oftentimes obstruction is overlooked because in fact the child has diarrhea; in the course of the diarrhea an obstruction occurs, and this masks the symptoms. Similarly, pyloric stenosis is masked by the fact that ordinarily when the child ingests a large quantity of milk, a portion of it is regurgitated, and the case is taken for one of ordinary regurgitation. But, as stated by the essayist, if there is apparently no gastro-enteritis which could account for the loss of weight, and yet there is a loss of weight, or even if the child is not having the usual normal increase in weight, we should certainly become suspicious, and, of course, as soon as the phenomena peculiar to the condition, make their appearance, the diagnosis can be made. Diminished stools, tendency to constipation, lessened amount of urine, etc., are the things that should cause more than a suspicion. At this time, as stated by the essayist, a positive diagnosis is quite easily made out. I am very glad that Dr. Waterbury called our attention to one fact in connection with the condition, and that is that in all these little children the stomach does not primarily enlarge. In other words, this symptom depends upon the degree of obstruction. The stomach attempts to compensate in order to carry its contents beyond the normal region of the stomach, and will go on to hypertrophy. Even then it may not for a time become enlarged, but ultimately there is failure of compensation, and it dilates, as all viscera dilate when they can no longer withstand the tension put upon them.

Dr. Fred Moore, Des Moines—I wish almost without exception to subscribe to the paper presented by Dr. Waterbury, and to emphasize the value of careful examination of these patients. As stated, in many instances it takes time to come to definite conclusions. Ofttimes to make a positive diagnosis requires considerable and constant watching of the patients after feeding, and in cases in which the evidence may not be clear it may be necessary to put the patient in a favorable light in order to demonstrate gastric peristalsis. Having seen a typical case there is no question in one's mind because the presentation is a definite and clear clinical entity. Concerning the treatment I have nothing to say excepting a little suggestion that I have seen carried out in several cases which had lost so much weight before diagnosis was established that they had become poor surgical risks. I have seen such cases carried over and seemingly put in better condition within a few hours by large enemata. A gallon of water or

normal saline is given by the drop method. The baby frequently retains several ounces a day or two as shown by the weight curve. Ofttimes two or three enemata in eourse of forty-eight hours will put them in much better eondition. Referring to drugs spoken of (atropine and opium), if there is hypertrophy, certainly the drugs will do no good. In case of spasm, I believe the amount of drug required to give relief will be so great as to be detrimental.

Dr. J. T. Strawn, Des Moines—This certainly has been a very interesting paper. The Doctor has so covered the ground that it is only left for us to emphasize certain points. In the last five years I have had the privilege of seeing six well defined cases with pronounced pylorie stenosis. In a review of the statistics we are surprised to find the number of cases reported. Of the series of six cases referred to, one oeeurred in the praetice of my associate. The point of especial interest in the case was that it proved eonclusively to my mind that this disease is not increasing as would seem to be indicated by the literature on the subject, but that in the past we failed to conserve these cases and they died. I mention this point to emphasize that physieians should watch these cases. When a baby two to six weeks old begins to have serious trouble, we should investigate the cause. As to treatment: In a review of the surgical literature, we are left with the impression that these are surgieal cases. Perhaps the truth of the argument rests about half way between. Each case is probably a problem by itself and should be dealt with aecording to the degree of obstruction, this being estimated aceording to the constipation and the findings as revealed by the X-ray.

Dr. L. E. Kelley, Des Moines—I wish to emphasize just one thing about the diagnosis: that is when there is persistent vomiting in a child, this fact should immediately put a man on his guard; the child should be given a feeding and watched for at least a half hour with the abdomen bared, to determine whether or not peristaltie waves may be seen traveling across the upper abdomen. In a case I now have in the hospital, vomiting had persisted for four or five days and two physicians had pronounced the condition colic, simply because the above precaution was not taken. Possibly a few cases in which a diagnosis has not been made at all, get well. Only yesterday as I was leaving Des Moines a doctor told me of a case that he had seen last year. He saw the child once or twice; no particular treatment was given. The subsequent history showed that vomiting continued until the child was very much emaciated, then for a short time food was retained, the spasms evidently letting up only to reappear and cause further vomiting with periods of remission. After several such eycles the child eventually recovered entirely. Probably some of these cases are never diagnosed, for in taking histories of children three or four years old, we occasionally obtain a history of persistent vomiting in early infancy which may be due to spasm or pyloric obstruetion. Let me emphasize again the importance of careful inspection of the bared abdomen for a half hour or perhaps more, eaeh day if necessary, in order to determine if waves are visible. An X-ray examination should be made to verify the diagnosis when peristalic waves have been discovered. Every child with vomiting should be watched carefully.

Dr. G. N. Ryan, Des Moines—The Chairman of the Surgical Section has recently demonstrated a new method of treating these cases which has been very satisfactory, and we would like to hear from him.

Dr. A. M. Pond, Dubuque—I do not elaim any eredit for this new procedure. But, as the essayist has stated, the mortality of gastro-enterostomy has been 20 or 25 per cent., and it seems hard to take a weak infant vastly below par and undertake a serious operative proeedure like gastro-enterostomy. The procedure I have in mind was published in the October number of Surgery, Gyneeology and Obstetrics, by Dr. Kraus of the Michael Reese Hospital. Dr. Kraus had a very unfortunate experienee and had opportunity to make postmortem examination of a couple of cases that he had failed to cure by the ordinary gastro-enterostomy. He took advantage of the clinical material, and found that he could make an ineision on top of the pylorus, then inside the hard, cartilaginous ring that seemed to surround the entire caliber of the outlet of the stomach, he separated the mucosa and carefully lifted it up from its bed out of the original incision through the serosa of the pylorus. For instance, (illustrating) the incision is made here; the mueosa is lifted up entirely out of its bed, here is a margin of one wound, and the mucosa that should pass through the pylorus is lifted out entirely with a curved tonsil knife; he then reaches in through this incision and the hard cartilaginous ring is divided right in half and turned upward; on the outside it is treated in the same way so that it is turned outward over here and these two are joined over the normal lumen of the pylorus. You have not then traumatized in any way the mucosa of the stomach and have not interfered with the structure of the pylorus otherwise than to divide this hard hypertrophic band of tissue which was the original cause of stenosis. Dr. Kraus has operated several of these cases and has had no mortality.

Dr. C. H. Magee, Burlington—What was the cause, Dr. Pond, of the death of the children after gastro-enterostomy? I understood you to say that he made a number of postmortems.

Dr. Pond, Dubuque—Probably death following operation in those eases was due to the fact that gastro-enterostomy is a serious procedure in a small child. Other than this I did not learn the cause of death. Dr. Kraus was giving me this experience, and you can find his review of the subjeet in the October, 1915, number of Surgery, Gynecology and Obstetrics.

Dr. Guthrie McConnell, Waterloo—I cannot discuss this subject from the clinical point of view, but the pathological side is of interest to me. Dr. Pond

has used the word "cartilaginous." I feel quite sure that Dr. Pond does not wish to give the impression that cartilage is present at the pyloric outlet. We all know from our studies in physiology that activity will bring about a hypertrophic condition of muscular tissue. It seems to me that we could very profitably trace this disease to intermittent pyloric spasm. We have a contraction of the muscle, which is fixed, and as a result of this increased activity we get a corresponding increase in the amount of muscular tissue. Examination has shown that the pylorus is entirely made up of involuntary muscle. We do not have hyperplasia of connective tissue, it is a purely muscular condition. As the trouble does not appear for some three to six weeks after birth, it seems to me we might readily trace back the cause as being the pyloric spasm, the result of which is that there is gradual increase of muscle until eventually we get a condition where food will not pass through the pylorus. The one point in the paper that interested me particularly was the statement that loss of compensation was infrequently found. Now, from a pathological and physiological standpoint I do not know why that should not be a very constant factor late in the condition, because we know that as long as muscle has to withstand resistance it will increase in size and function until there comes a point when it is no longer able to compensate for the resistance, when we will get an obstruction and a dilatation. After studying the literature on the subject, I would, therefore, be inclined to think that if more careful examinations were made we would find late in these infants more or less well marked dilatation due to loss of compensation of the muscular tissue of the stomach.

Dr. Waterbury—There were brought up in the discussion two points to which I wish to briefly refer. One was that the thing most necessary in making a proper diagnosis in these cases of vomiting, is frequent observation of the baby immediately after feeding. But you do not have to make your call just after the baby has been fed; you can give him three or four ounces of barley water with a little milk, anything of that sort, and watch the baby over a period of fifteen, twenty or thirty minutes in a good light, and if there be a pyloric stenosis present, even of mild type, you will almost invariably get vomiting and a distinct visible gastric peristalsis. Another point is that these little babies in extreme condition can often be tided over a few hours and the condition temporarily improved by rectal feeding of sweet milk, pasteurized milk, or anything of that kind, but breast milk given directly will be retained and absorbed over a period of twenty-four, thirty-six or forty-eight hours perhaps. Since the subject of surgical treatment has been brought up, I will say that I believe the modified pyloroplastic operation as described by Dr. Pond, or the simpler one used by Downs of New York in his extreme cases, is best for these little children that have lost considerable weight and are not in condition. Downs splits the muscle, separates it, allows the mucous membrane to herniate, and drops the stomach back. In some instances he makes a small opening in the stomach and passes a uterine sound in the pyloric canal just to assure himself that all the fibres have been split and retracted. That is a simple operation requiring but a few moments, it is accompanied by no shock, and those little babies should recover.

RUPTURES OF THE INTESTINE DUE TO ABDOMINAL TRAUMA*

WILBUR S. CONKLING, M.D., F.A.C.S.,
Des Moines

While traumatic intra-abdominal injuries are not as frequent as many other surgical conditions we are called upon to attend, they do occur, and in sufficient number of cases to demand that not only the surgeon, but the general practitioner, who usually sees these cases first, must always consider the possibility of such an injury following abdominal trauma. It usually is difficult to determine early, whether a case may be considered as a trivial injury of the abdominal wall, or a grave one of the abdominal contents. The injury may be due to a blow, kick of a horse, falling or striking upon a hard object, being run over by a wagon or other vehicle, and may be accompanied by other injuries, producing symptoms which may detract the attention of the attending surgeon from the possibility of intra-abdominal injury. The failure to recognize the true condition during the first few hours, diminishes the chances of the patient, and to wait for the classical symptoms, spells general peritonitis and death.

The rupture may be caused, First: By direct compression between the bones of the spine or pelvis, and the applied force through the abdominal wall.

Second—By tension from within the gut, which is produced when a kinked or occluded portion of the gut receives over a small area, a sudden application of force through the abdominal wall, producing a hydraulic-like pressure with a resulting rupture or blow-out at the weakest point of the gut.

Third—By tension from without the gut, which is produced when the applied force against a fixed portion of the gut is greater than the elasticity or resistance of the intestinal wall.

The ileum is the location of the injury in about 50 per cent. of the cases; the jejunum, duodenum and colon making up the other 50 per cent. in relative frequency as named.

The duodenum is liable to ruptures by reason of it being in a more or less fixed position. This rupture may be either intra- or retro-peritoneal.

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Knaggs[1] reports a collected series of fifteen cases of retro-peritoneal rupture of the duodenum by trauma, of which six were operated, none recovered. In some of the cases operated, the character of the injury was not discovered except at postmortem examination.

Kanaval[2] reports two cases of retro-peritoneal rupture of the duodenum by trauma in his practice. Both cases were operated and both died. He attributed the death to toxemia, as there was no evidence of a general peritonitis.

As to the frequency of rupture of the intestine by trauma, Cope[3] reports a series of forty-four cases, which was a total of cases admitted in twelve large London hospitals, in four years, 1908-12. Thirty of the forty-four cases were operated upon, with a mortality of twenty-one. Of the fourteen not operated upon, all died.

Evans[4] states that one-third of the patients who receive a kick over the abdomen, from a horse, will have an intestinal injury and he believes that other similar injuries will give about the same result.

Siegel[5] has collected in all, 376 cases submitted to operation. The mortality was 51.6 per cent. An analysis of the cases with reference to time of operation, gave the following result:

Cases operated upon within the first four hours had a mortality equal to 15.2 per cent.

Cases operated upon within the first 5 to 8 hours had a mortality equal to 44.4 per cent.

Cases operated upon within the first 9 to 12 hours had a mortality equal to 63.6 per cent.

Cases operated upon later than twelve hours had a mortality equal to 70.0 per cent.

One has, of course, to discount such an estimate, for successes are more likely to be published than failures.

As to the mortality of cases not operated, the majority of authorities place it at 100 per cent., although Hagen reports one case of spontaneous cure, a fecal fistula developing in region of the cecum. He was of the opinion that the rupture was secondary to the trauma of the gut, and by reason of this there was a walling off of the general peritoneal cavity.

In twenty cases of rupture of the intestine operated upon and reported, recently by eight American surgeons from different pasts of the country (Kanavel, two; Kohn[6], four; Evans, four; Davis[7], two; Tucker[8], one; Fay[9], four; Osborn and Ely[10], one, Conkling, two); give a mortality of 40 per cent.

Case 1—L. T., male, age sixteen, quite well developed for age, was swimming in the Des Moines river, and in the act of diving into four or five feet of water, from a distance of three or four feet above the water, struck a snag or rock, causing two slight contused wounds of the abdomen, three inches below the umbilicus, on either side of the median line. The wounds did not extend entirely through the skin. The accident happened about 4:30 P. M. He was helped out of the water, and with assistance walked a short distance to his home. I saw him at 7:30 P. M., three hours after the accident. He was having severe pain in the abdomen, vomiting, temperature 98, pulse 76, no shock. The lower abdomen was very rigid and boardlike. He was not tympanitic. Liver dullness normal. Intra-abdominal injury was diagnosed, and the patient was sent to the Methodist Hospital. On his arrival at the hospital at 9:00 P. M., his temperature was 99.2, pulse 86. The muscular rigidity had increased in area, and in intensity. No dullness could be detected in the flanks, and there was still or no tympany. The respirations were thirty to a minute, and becoming thoracic and shallow. After keeping him under observation for an hour, with a constantly increasing abdominal rigidity, an operation was insisted upon, and consented to. Operation: Six hours after accident. Median incision. Abdominal wall showed no evidence of trauma. There was a small amount of bloody fluid in evidence when the peritoneum was opened. Fortunately, almost at once, a loop of the small bowel, which was already covered with an exudate, was brought into view, showing a complete rupture, about one inch in length, on the free margin, and parallel with the gut. This was closed by a double layer of linen suture. Some fecal material which had escaped into the abdominal cavity, was carefully wiped away with moist gauze, after which an examination was made as to the possibility of other ruptures. Two split drainage tubes of iodoform gauze were then introduced, and the abdominal incision closed. The patient was placed in Fowler position, and normal salt solution given by Murphy method. The patient made an uneventful recovery, leaving hospital in a little over three weeks, no fecal fistula or ventral hernia developing.

Case 2—A. H., male, age seventeen, student. While working at a circular saw, in the High School Manual Training Department, was struck in the abdomen by a small piece of pine board, about four inches in length and one-half inch square. I saw him thirty minutes after the accident, and found a small wound,

1. Knaggs, R. L.—"Retro-peritoneal Rupture of the Duodenum." Proc. Roy. Soc. Med., London, 1912-13, vi, Surg. Sect. 243-66.
2. Kanavel, Allen B.—"Duodenal Toxemia Following Rupture of the Duodenum." The Journal A. M. A., March 7, 1914, Vol. lxii, 10-759-61.
3. Cope, V. Z.—"The Early Diagnosis and Treatment of Ruptured Intestine." Proc. Roy. Soc. Med., London, 1913-14, vii, Surg. Sect., 86-107.
4. Evans, C. A.—"Subcutaneous Traumatic Rupture of the Intestine, with Report of Cases." Wis. Med. Jour., 1913-14, xii, 252-57.
5. Siegel—Moynihan's "Abdominal Operations." Page 83.
6. Kahn, Maurice—"Rupture of the Intestine with Special Reference to its Early Diagnosis." J. A. M. A., Chicago, 1914, lxii, 756-59.
7. Davis, Lincoln—"Two Cases of Rupture of the Intestine." Boston M. & S. J., 1915, clxxii, 163.
8. Tucker, E. F.—"Intestinal Injuries—Report of Cases." Northwest Medical, Seattle, 1913, n. s. v., 290.
9. Fay—Personal Report.
10. Osborn and Ely—Personal Report.

penetrating the skin three inches to the right and about one inch below the umbilicus, and extending down to the fascia. Pulse and temperature normal. He did not complain of any pain other than incident to the wound. Abdomen was not rigid and there was no vomiting. An antiseptic dressing was applied to the wound and after watching the patient for thirty minutes, I did not believe there was any intra-abdominal injury, and permitted him to be taken home in an automobile, but advised him that I should see him that evening. About 6:30 P. M., or eight hours after the accident, I found him suffering intense abdominal pain, muscular rigidity, pulse 85, temperature 99.4, had vomited. I was told by the family that he had been comfortable until 4:00 P. M., when he was taken with a sudden attack of pain in the abdomen, which gradually increased, as apparently had the other symptoms. The family were advised that the boy had some internal injury, probably a ruptured intestine, and that an immediate operation was necessary. An ambulance was called and he was taken to the Iowa Lutheran Hospital. A consultation was asked for and Dr. O. J. Fay, of Des Moines was called, and saw the case with me shortly after his arrival in the hospital. The abdominal rigidity was increasing, although patient was resting a little more quietly, due to a hypodermic of morphine. Dr. Fay agreed with the diagnosis, and at 7:30 P. M., the patient was anesthetized, and a median incision was made. The peritoneum and abdominal wall was examined, and there was no evidence of any trauma to the abdominal wall below the fascia. There was a slight amount of free fluid in the abdomen, and a slight exudate was present. The small bowel was first inspected, but no rupture could be found. The colon was then examined, and while making tension we detected escaping gas, and were able by this to locate a pin-point perforation in the middle third of the transverse colon, which resembled a small puncture of an inner tube of an automobile tire. Very little fluid had escaped, and had it not been for the escaping gas at the opportune time, the perforation could easily have been overlooked. A purse-string suture of linen was placed around the perforation, drainage was introduced and the abdomen closed in the usual manner. The patient was placed in Fowler position and normal salt given by the Murphy method, with sufficient morphine to control pain. The patient had taken his anesthetic very poorly, due as we discovered later, to a severe cold from which he was suffering. On the following day the pulse was 100, temperature 100, respiration 32, abdomen soft, had expelled gas freely. At noon on the second day following the operation, his temperature shot up to 104.6, pulse to 120, respiration 50. He complained of severe pain in the chest, was coughing up blood-streaked mucous, and rales were present in both lungs. The abdominal symptoms remained good, bowels moved naturally, little or no drainage from the abdominal wound, but the pulmonary condition continued, and in spite of all that could be done, he died from pneumonia on the seventh day following the operation. At no time was there any evidence of peritonitis, and without doubt, had pneumonia not developed, the young man would have made a good recovery.

Case 3—I am indebted for the report of the next case, to Captain John Russell, Medical Corps, Iowa National Guard, who was on duty at Sparta, Wisconsin, when J. G., age eighteen, Private, Battery "A," First Battalion Field Artillery, was injured by being thrown from his horse, the horse falling and rolling over him. The accident occurred at 2:30 P. M. He was taken at once to the Post Hospital. He was conscious but complained of severe pain in the abdomen. Half an hour later, his pulse was 85, strong and full, temperature normal, expression pinched, respiration shallow, pain had increased and was more general, liver dullness normal. There was a marked muscular rigidity and tenderness upon pressure. No evidence of trauma upon skin. Diagnosis was made by Dr. Russell of an intra-abdominal injury, which was not agreed with by the post surgeon. Records are not available as to the man's condition during the night, except that he was very restless, had excruciating pain, which was not relieved by morphine. At 7:00 A. M., the patient became suddenly worse, and died in a very short time. Post-mortem examination disclosed an abdomen full of blood and gastric contents, tranverse rupture of duodenum (intraperitoneal), about three-fourths inch long. Other organs normal. There was no evidence of trauma to the abdominal wall.

Symptoms—Pain of a continuous character and an increasing severity, localized at first, followed by general abdominal pain, requiring morphine to keep the patient in any degree of comfort, is one of the symptoms which is present in practically 100 per cent. of all cases of rupture of the intestines, and is a reliable symptom in the early diagnosis. Pain did not appear in my second case until five and one-half hours after accident, when it was of a very sudden and severe character. This was due, in my opinion, to the fact that there must have been an incomplete rupture at the time of the accident, with a perforation at the time of the onset of sudden pain.

Muscular Rigidity—An increasing muscular rigidity of the abdominal wall is the most important early diagnostic sign of intra-abdominal injury, and with it present, one can not exclule a grave condition. The rigidity of the abdominal wall, due to simple contusion, will pass away in a few hours, or at least will not increase; but that board-like abdomen which increases in hardness under the observation of the surgeon, is pathognomonic of a grave intra-abdominal condition. The rigidity is usually localized at first, but soon becomes diffused over the entire abdomen. It is relaxed very little, if any at all, by mor-

phine or an anesthetic, and although Cope reports it entirely absent in one of his cases, it is without doubt the most reliable symptom with which to make an early diagnosis of an intestinal rupture or other intra-abdominal injury following trauma.

Vomiting coming on in a few hours after the injury is a reliable symptom when considered with the other symptoms. Vomiting which takes place at the time of the injury is usually of nervous origin, and of little value. Vomiting was present in both of my cases, one in two hours, the other five and a half hours after injury. Berndt says that continual vomiting is pathognomonic of ruptured gut, although its absence does not preclude the possibility of a rupture.

Tenderness is of some value as a symptom, but on account of the impossibility of differentiating the tenderness due to the external trauma and that due to the intra-abdominal injury, it loses most of its value as an aid to diagnosis.

Pulse and temperature are not at all reliable as an early symptom, as they may both remain normal for several hours, but a gradual increase is very suspicious, and when considered with other symptoms, an increasing pulse rate and rise of temperature are of much value.

Thoracic breathing may be present early as a natural result of the abdominal pain, but as it is frequently absent except when general peritonitis has already developed, its presence may be considered as one of the positive symptoms, but its absence cannot be considered as a negative one.

Absence of liver dullness is an indication of peritonitis, while a normal liver dullness can not be considered as an indication to negative ruptured intestine.

Shock as a symptom is deceptive, and one into which the personal equation enters to a marked degree. Early shock may be due to the primary injury, while late shock would often indicate general peritonitis and impending death.

Dr. E. B. Claybrook describes a symptom which he states has been prominent in his cases, viz: the transmission of heart and respiratory sounds, so that they are heard all over the abdomen almost as plainly as over the chest. This sign has appeared early and has continued for twenty-four hours in unoperated cases.

Treatment is, of course, an early operation, and on account of the exceedingly high mortality of the late cases, is justifiable upon reasonable diagnosis. When a positive diagnosis can be made without a doubt, the prognosis can also be made without a doubt. A median incision should always be made as it affords the best opportunity for a thorough examination. The technique of the repair of the rupture will depend entirely upon the individual case. Care should be taken not to lessen the lumen of the gut to any great extent. The possibility of multiple rupture must always be considered. If there is soiling of the abdominal contents, this should be carefully sponged away with moist gauze and in no case is irrigation indicated as it may do much harm and can do very little good. Drainage should always be established and the patient placed in Fowler position as soon as possible. Normal salt should be given by the bowel. No feeding for sixty to seventy-two hours, when light liquids can be given. Morphine administered when necessary for pain or rest, is also of much value in lessening peristalsis, thereby limiting the extension of the infection.

In conclusion, I believe all cases of abdominal trauma should be looked upon with suspicion, and with such a history present, a severe constant abdominal pain, an increasing muscular rigidity over a period of several hours, accompanied by one or more of the other symptoms enumerated, is a sufficient reason for an early exploratory operation.

Discussion

Dr. A. J. Burge, Mason City—It was with great pleasure that I noticed this topic on our program. To me the subject has been one of most intense interest because of a personal experience some twelve years ago since which time I have had the misfortune to have four of these cases in my personal practice and with about the average result. Dr. Conkling has so well covered the ground and the different phases of the condition, that I feel I should not waste time in attempting to elucidate any of the points brought out. The thing I want especially to speak about is that every man here should become a missionary to his home society in this line of work. The doctors who see these cases first do not as a rule attend these meetings. We might compare the subject of abdominal trauma to other lines of work and ask, "Why is it so important?" Because there is such a multiplicity of accidental injuries all the way from the merely minor up to the most severe. Of all the thousands upon thousands of slight injuries that occur during this month, a few are going to develop serious symptoms, while the rest will recover spontaneously without treatment; of all the ordinary puncture wounds that will occur this month in Iowa, a few are going to develop tetanus, while the great majority of the cases will pass along without any complication; of all the little children that are bitten and scratched by animals, a few will develop rabies, and the balance of the cases will perhaps be unreported; of all the abdominal contusions occurring, of which there is usually a great number, the majority will pass along without permanent injury, and that is what makes the average practitioner careless. Why is it important? In the case of vis-

ceral rupture, or devitalization of areas leading to rupture, the hours intervening between the accident and operation are the golden hours that, when lost, cannot be retrieved. If we can only impress this upon our brethren at home—the general practitioners who are not present, but who see the bulk of these cases in the first instance,—if they could be impressed with the seriousness of every abdominal contusion or violence, we would be doing a great work. While many of these injuries prove only bruises, or contusions which do not go on to complication, it seems to me that in any case of abdominal violence the patient should be promptly put at absolute rest, all food withheld, and treated as a possibly serious case, so that we may have our patient in the best condition to be treated surgically, if necessary. In many of these cases spontaneous healing will actually occur under those conditions, and in others the condition will at least be limited so it will be more amenable to operative treatment. But above all let us try to impress upon the men not here the possible subsequent complications and the gravity of every abdominal contusion, that many a valuable life may be saved to future usefulness.

Dr. C. H. Magee, Burlington—In listening to the classification of the ways in which the bowel is ruptured, I understood one cause of rupture to be an outward pressure pushing the gut against the bones of the pelvis forming the lower part of the spinal column and breaking it. Another cause of rupture cited by the essayist is where the fecal matter or gas inside the bowel is made to expand, the pressure thus created causing the gut to pop open. Now, a boy, diving in the Des Moines river (or perhaps the Mississippi), strikes a snag and breaks the gut by forcing the bowel against the bones of the spinal column. That is according to the first method enumerated in the classification. Then a man falls off a horse and breaks it according to the second method. Those are perfectly rational methods, but how does the essayist know by which method the gut has been ruptured? I would like to have him explain this point. One other thing, in regard to drainage. It seems to me he used the term loosely when he stated that "two drains were introduced." But where does he put the tubes? This is a vital part of the technic. I have had two cases of ruptured intestines: one a boy kicked in the abdomen by a horse; I did not operate, and he died; another one was struck by the pole of a wagon; I operated, and he died. That is my experience.

Dr. F. B. Dorsey, Keokuk—I was very much interested in this paper and in the remarks of the gentlemen who opened the discussion; but in my experience there is something that has struck me as almost pathognomonic of the condition we are talking about, but which has not been mentioned. In the cases I have seen I noticed that soon after injury the patient had a peculiar pinched expression as though there was a grave injury, and although the circulatory system is not much disturbed, yet we find a peculiar shallow respiration. That is almost conclusive of intra-abdominal injury of a grave nature. In the last few years I have seen five cases, all of them dying, not because of early operative interference, but for the want of early operative interference. One case was that of a prominent contractor in our town who fell a few feet into a basement he was excavating. He had intra-abdominal injury and some slight injuries, and died on the seventh day. I saw him a few minutes after he was taken into a store, and he had that peculiar, pinched expression of countenance. I remarked to the physicians in attendance that undoubtedly the man had a serious intra-abdominal lesion, and they laughed at me. A few hours after his death, postmortem was done, when it was found that he had sustained a rupture of the splenic flexure of the colon and also a rupture of the stomach, and yet the men who were in attendance said the man was not seriously injured, that there was no rupture or other intra-abdominal lesion. In all the cases I have seen I have noticed early this pinched expression and the shallow respiration, causing me to disagree with other physicians in attendance. The indications are usually too grave for dilly-dallying. With the present-day technic, it seems to me we are justified in exploring, not late, but early.

Dr. Conkling—With reference to the cause of rupture, I would say that the classification given is my own, of course. In looking through the literature it is difficult to find a classification. There is some method by which these ruptures are produced. It seems to me that in one case it must have been caused by a relaxed condition of the abdominal wall and the bowel being forcibly pushed against the prominence of the spine. That seemed to be the only way it possibly could have been produced. In the second case we must exclude that possibility—There was no chance at all for rupture to occur in that manner, it must have been from tension within the gut itself. The hydraulic pressure from within the gut caused a blow-out of the gut. As to the third class, tension from without, that also is my own classification. And it seemed to me that this was the probable way the rupture took place—the duodenum being in the fixed position, the pommel of the saddle caught the duodenum and caused it to tear. With regard to drainage, as Dr. Magee lost both his cases, it is natural he should want to know about it. I put in drainage, one tube in the abdomen down to the rupture, the other deep in the pelvis, patient in the Fowler position. As a rule the pinched expression is an indication not of an early condition, but of a late one, such as peritonitis, pain from the injury, etc. Where we have the pinched expression along with the other conditions, it is, of course, of some value.

THE SUBMUCOUS RESECTION OF THE NASAL SEPTUM*

W. E. Patterson, M.D., Waterloo

The submucous resection of the nasal septum is, as you all know, the most universally adopted, and, as acknowledged by practically all authorities, the one reconstructive operation that is applicable to the correction of all septal deformities.

I do not mean that it is the only efficient means in use for relieving intranasal obstruction, and I do not in my practice ignore some of the simpler methods where I feel they will serve the purpose as well, but I do think where an operation upon the septum is indicated at all, in the great majority of cases, yes 90 per cent. of the cases, the submucous resection if done properly, is the operation that should be done and the one that will give the patient the most lasting and complete relief.

Where you find a low deflection, which usually occurs at the junction of vomer and the quadrilateral cartilage, in most cases you will find a higher deflection impinging upon one or the other middle turbinate bodies; therefore the simple removal of the so-called spur with the saw or spoke shave or some similar method is not going to give the patient the relief he is seeking.

The object of any intranasal operation, of course, is to give sufficient air-way for breathing purposes and to facilitate drainage and aeration of the sinuses; and all are agreed that the intranasal surfaces are so sensitive that the least contact of one structure with another will cause intumescency and consequent hyperplasia; hence the object of getting as perfect an alinement of the septal surfaces as possible.

On the whole, with but very few exceptions, the submucous resection, as practiced in this country and in Germany, is the operation of choice for the deflected nasal septum.

As to the methods of conducting the operation, I do not claim there is any one method par excellent, nor that the technique which I am about to present is the only proper method to follow, but I do think there are certain principles that should be observed by every operator, that, if followed, will enable the operator to correct every septal deformity and do it safely.

The technique which I have adopted has so far served me well; but I do not claim originality for any part of it, nor do I try to follow the technique of any one of the many surgeons to whom we are indebted for the present developments in technique and the ingeniously constructed instruments to meet the difficulties arising for each step of the operation.

There is a tendency among many of the present day rhinologists to disregard the seriousness of the operation, and to sacrifice thoroughness and comfort of the patient for speed. I know surgeons who make claims to, and do the operation in four and five minutes, but I consider this unnecessary haste which is not justifiable by any reason that I can think of, and is bound to produce greater shock to the patient and more violence and trauma to the tissues, and at the same time a greater possibility of overlooking some one of the essential to gain a good result.

There are several contra-indications to the operation, however, that we must not lose sight of, among which is old age, syphilis, children under eleven or twelve, active tuberculosis, hemiphilia, diabetes, and in certain stages of Bright's disease.

As regards the seriousness of the operation itself, I regard it as one of the major operations, requiring considerable skill, and subject to many dangers that we often regard too lightly.

In order to complete the subject of this paper I feel impelled to inflict this audience with a recital of some part of the technique which I observe in my work, not thinking it is entirely new to any of you, but with the hope that some who are interested in rhinology, may gain some helpful suggestions; and this being the only place on the program where the nose and throat specialists have a chance to get in, I feel at liberty to go as far as I choose.

I will first deal with the subject of anesthesia —the usual method, of course, being cocain anesthesia, as we seldom find general anesthesia necessary. I differ from the average practitioner in this particular part of the work in that I never use stronger than a four per cent. solution, and that with adrenalin, one to one thousand, in the proportion of four to one, which reduces the strength of the cocain materially; to three and one-fifth per cent.; but I am able to get complete and lasting anesthesia by careful and close application through the method I use, which is by long narrow strips of cotton carefully placed. I sometimes find it necessary to place one or two strips and remove them in order to shrink the tissues to gain room for packing.

After soaking the strips in the solution, I squeeze out all that I can conveniently and then start placing them beneath the lower turbinate body, then around the lower edge and up along the side, pressing down each strip firmly so as to get as close approximation as possible, upon which I depend for the anesthesia.

*Read before the Austin Flint-Cedar Valley Medical Society, Iowa Falls, Iowa, July 11, 12, 1916.

I carry this building-up process until the lower border of the middle turbinate is reached, then I start to fill in the space above by fixing the end of the cotton strip in the angle above and anterior to the middle turbinate, carrying the strip folded downward and backward along side of middle turbinate between that and the septum, holding the free end on the outside out of the way of the next strip. In this way I fill in the space until the nasal cavity is completely and firmly packed, which will require from fifteen to twenty strips to the side. I pack both sides alike. The purpose for leaving a free end of each strip on the outside, is for the removal of same in the order in which they were placed, and thereby, prevent squeezing the cocain solution back into the pharynx, as we generally do in removing a large mass of packing at one time, which so often is responsible for cocain poisoning. This method of packing may seem somewhat tedious at first, but the results obtained are very satisfactory and I never have seen any toxic symptoms result. Anesthesia is complete in twenty minutes. I find a Bosworth's plain wire speculum to be the most serviceable speculum to use during the procedure of packing.

I operate practically all of my patients on a table in the semi-recumbent position, with the head of table elevated ten or twelve inches. In this position the patient is not liable to faint, as they so often do when being operated in the sitting posture, and is able to control the position of the head to suit the operator, which will enable him to get a good view of every part of the nasal cavity besides adding greatly to the patient's comfort.

The incision I use, is very similar to that recommended by Yankauer, *i. e.*, to begin well anteriorly upon the mucous membrane over the cartilage and about one c.m. from dorsum, carrying it straight downward to the muco-dermal junction in the vestibule, thence outward and well across the floor to the other side of vestibule. This large incision lessens the danger of anterior perforation, which, if it occurs in this region, causes a great deal of annoyance; gives free drainage, and permits of deflecting the flap to the outer wall of nose which is a great advantage in uncovering a low septal deformity. The incision across the floor I make deep enough to include the periosteum. I think it is a great help to infiltrate beneath the periosteum and pericondrium with novocain and adrenalin preliminary to making the primary incision as this is the most difficult part of the nasal septum to anesthetize, is the most vascular part of septum and the infiltration aids materially in starting the elevation of periosteum and pericondrium.

The selection of instruments is largely a matter of individual choice and experience; some preferring the thin Freer elevators, some the Killian type, and others the thick, broad Hurd elevators; some use one speculum and some another, etc.

In the septum dissection I depend mostly upon the Freer type of elevator; the Ballanger swivel knife for removing the cartilage; the Ballanger-Foster punch for taking away the first piece from the perpendicular plate, and the Demarest biting forcep and Lutz cutting forcep for taking away the bony framework.

I depend entirely upon the Lutz forcep instead of the chisel or gouge for removing the ridge, holding that it is a safer method and causes less shock to the patient, and answers every purpose for which it is intended.

To retract the flaps while working within, should I have an assistant, which I consider the operator is entitled to in every case, I use wire right angle retractors which can be manipulated to give the operator a perfect view; while, if I do not have an assistant, I find the Mosher speculum with the adjustable wire blades, to be the most serviceable.

For elevating the periosteum along the floor on the convex side, and along the side of vomer beneath the deflection, I make use of one or the other size of the Killian type of elevators.

As to the method of elevating, I work the elevator along parallel to the ridge of the nose, by using a slight rotary motion, until it is well beneath periosteum over the perpendicular plate of the ethmoid, and then elevate forward from that point both above and below. The reason for elevating from behind forward instead of before backward, is obvious, when we consider the arrangement of periosteum and pericondrium, *i. e.*, only where bone unites with bone as where the perpendicular plate unites with the vomer, is the periosteum continuously spread over the septum, while along the crest of the vomer the periosteum passes over to the other side to continue downward and across the floor of the nose. Hence by starting with the tip of the elevator beneath periosteum on the perpendicular plate, it is quite easy to continue the elevation of periosteum downward and forward along the side of the vomer, especially on the concave side, and on the convex side, as far at least, as the apex of the deflection, which is very difficult to do without first incising the periosteum along the crest of

the vomer with a knife if you attempt to make the elevation from before backward.

On the side of the deflection I seldom attempt to elevate over the apex from above downward, as here is where we encounter our greatest difficulty on account of lack of fusion of pericondrium and periosteum; but instead, I elevate through the incision in the floor from below upward and under the deflected area to a point where the periosteum passes over to the other side of the vomer.

The remaining narrow strip of connective tissue may be sheared off with the edge of your elevator, or may require cutting with a knife. For this part of the work I use a Killian elevator. With this method carefully carried out, there is no need of tearing the membranes in the least,

I make the incision through the cartilage about three or four millimeters behind the incision in the membranes, which also lessens the danger of a perforation and gives a good support to the flap.

I close the upper part of the incision through the mucopericondrium by using two or three small metal clips, leaving the lower part of the wound open for drainage.

To support the membranes and hold them in apposition following the operation, I find that the Simpson-Bernay tampons, well vavelined, answer the purpose as well as any other packing in most cases, and have the advantage of not causing so much pain and bleeding on removal, as does gauze packing, and the disadvantage of stopping drainage is no greater than from any other method in common use. The tampon should be removed in from twenty-four to forty-eight hours and the nose irrigated with a warm normal salt solution followed by the application of the antiseptic oil preparations.

In conclusion I wish to commend the submucous resection as a means of reconstructing the nasal septum, for if properly done it will restore a perfect function to the septum; fresh anastomoses of obliterated vessels will result, giving a normal blood supply to the tissues; reflex and other symptoms that produce the indication for the operation will gradually disappear; the cartilage and bone is replaced by fibrous tissue which bears the same relation to the pericondrium and periosteum as before; and if a careful superior margin is left, the alinement of the nose externally is not altered.

ANESTHESIA

In a study based on special observations by himself and his assistants, A. D. Bevan, Chicago (Journal A. M. A., October 23, 1915), analyzes the many existing methods of anesthesia as regards safety, comfort to the patient, efficiency, control by the operater, simplicity, after-effects, complications, and the effect on immunity to pathogenic organisms. The first anesthetic taken up is chloroform by inhalation, open drop method. This, while agreeable, is the most dangerous of all inhalation anesthetics. It is also the most efficient, affording the most profound and complete anesthesia. It can be stopped on the signs of danger, but the drug inhaled in the system cannot be rapidly eliminated, and the margin between the toxic and anesthetic dose is too narrow for safety. In simplicity and general adaptability it is all that could be desired, but the after-effects, now generally recognized as late chloroform poisoning, are usually fatal when they occur. The complication of vomiting occurs in about one-third of the cases and immunity is reduced. Ether by inhalation, open drop method, is the safest agent for prolonged anesthesia but is not an agreeable one to take, though very efficient. The margin between the anesthetic dose and the toxic one is wide. It should be today the standard anesthetic in the surgical clinic, though it has some of the disadvantages of chloroform. Nitrous oxid gas for short anesthesias is the safest agent known. In prolonged anesthesias it is more dangerous than ether, especially in nonexpert hands. It is agreeable, but not efficient, and can be readily stopped at danger signals and is more rapidly eliminated than any other anesthetic. It requires complicated apparatus and is not so widely adaptable. The after-effects and complications are very slight and it has but little influence on immunity. Scopolamin and morphin used for anesthesia is a very dangerous anesthetic which has been exploited as the "twilight sleep." It is not efficient, and when once injected is beyond the control of the physician. It not infrequently produces delirium and it reduces immunity to pus organisms. Spinal anesthesia is very dangerous, not comfortable, efficient or simple, and when once injected is beyond control. Complications may be severe. By "blocking" is meant the attempt to anesthetize the field of operation by infiltrating the nerve supply. With good technic it is fairly safe, but is not comfortable or remarkably efficient. As the dose is never toxic, the lack of control is not a serious objection. It is not simple and requires special skill in training and has but a limited field. Local infiltration anesthesia is very safe when the proper agents are employed and the technic is aseptic. Novocain seems to be the best agent with the proper amount of epinephrin added. This should not be used, however, in too great concentration, and is not more painful than the ordinary hypodermic injection. Intravenous anesthesia with ether is condemned as a dangerous method, and should be rejected. Local intravenous anesthesia with cocain has no special advantages. Intrarectal anesthesia is also considered unsafe by Bevan, as is also the intratracheal method. Intrapharyngeal anesthesia is an old method reintroduced. It is about as safe as drop ether but not quite so efficient. Mixtures and sequences with complicated apparatus are not recommended nor are the ether warming machines. Bevan does not agree entirely with Crile as to the merits of the latter's anociassociation method and quotes other experimenters who have disagreed with him.

The Journal of the Iowa State Medical Society

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THE REVIEW OF THE REPORT OF THE IOWA WORKMEN'S COMPENSATION LAW

We have before us the report just issued by the Iowa Workmen's Compensation Service, for the biennial period ending June 30, 1916, A. B. Funk, Industrial Commissioner.

There are several matters of information in this report as to its advantages and as to the shortcomings of the Workmen's Compensation Act in Iowa. Some of the matters set forth, relate to the medical profession. It will be recalled that the state law provides that services shall be rendered for the first two weeks at the expense of the employer, but in no case shall all the medical expense including hospital and nurse hire, exceed $100.00. The Commission, in their report, say that the two weeks time should be extended to four weeks. It would give better satisfaction to the medical profession, who are so vitally interested in this matter, if the period was extended to eight weeks instead of four weeks, although the insurance companies have overcome the objection to the short period service by making a flat rate for the after-treatment of an injury, regardless of the length of time that the treatment might be necessary. The law provides that the Commission shall determine the question of reasonableness of the fees charged, or, according to Section 36, "Fees of attorneys and physicians for services under this act, shall be subject to the approval of the Industrial Commissioner unless otherwise provided in this act." The question, then, of the maximum amount of money to be paid to physicians in any case, is fixed by law, and the fee to be paid to physicians for services in any other case is also fixed by law, consequently the medical profession are not in a position to dictate terms to the Commission as to what their compensation shall be. It only rests with them to accept or refuse the service, as they see fit.

We have received from the Austin Flint-Cedar Valley Medical Society, resolutions adopted by this organization, and which we elsewhere publish.

It is rather interesting in this connection to compare the schedule of fees allowed by the insurance companies operating under the Workmen's Compensation, with the fees allowed by railway companies for similar service. We find on going over the fee bill of several railroads, that their fee bill is from 25 per cent to 33⅓ per cent. lower than the insurance companies' fee bill, and we venture to say that a considerable number of the gentlemen who voted for these resolutions, had signed contracts with railway companies for still lower fees. We desire to say in this connection, that the fee bill presented at the Davenport meeting of the State Society as being the one adopted by the insurance companies, and copied from the New York State and Wisconsin State Commission with some changes, had no binding effect upon either the State Society or the insurance companies, but simply as an expression of friendly relation with the insurance companies until some state action is taken in relation to physicians' fees. The Commission has placed a liberal interpretation upon the freedom of choice on the part of injured workmen in selecting a doctor.

As we understand, we are now in the same relation to Workmen's Compensation that the profession of Great Britain was to the friendly insurance companies before the Lloyd George bill was passed. The friction arising between the profession and the insurance companies, was what led to the passage of the Lloyd George bill by Parliament. When this bill was passed, 27,000 physicians entered into agreement not to accept the terms of this law. After several conferences, a modification was made, which led to an understanding and an agreement to render services for the Government under the compensation law at considerably less than one-half the fee bill which was agreed upon by the insurance companies doing business in Iowa. We trust that friction and irritation will not result in the rigid enactments in this country that followed the same causes in Great Britain.

It is interesting to note in the Iowa report, that before the compensation laws were enacted, it took $3.00 to carry $1.00 to the accident victim.

Under the compensation act, it has required 65c to carry $1.00 to the accident victim. In this report, the Iowa Commission shows that thirty-three states are operating under some kind of compensation law, hardly any two of these laws being alike. It also shows that in all the states working under these acts, there are many attempts at evasion and to escape the spirit of the law. Public sentiment, however, is so strongly in favor of this kind of legislation, that the interests which fail to accommodate themselves to this spirit, will finally suffer from much more exacting laws than now. So far as we of the medical profession are concerned, it is our plain duty to co-operate as far as possible in helping our commissions to work out a practical and successful plan of industrial insurance. It is very certain that resistance on the part of employers or resistance on the part of the medical profession is only going to bring them greater burdens in the future. For our own part, we are firmly of the opinion that the compensation provisions made for the profession in Iowa, are as liberal as they will be under any kind of legislation that may be enacted. There may be some inconsistencies in the way of fees, but they will be removed from time to time as the justice of the case may require.

PUBLIC HEALTH WITHIN THE MEDICAL PROFESSION

The expansion of the public health idea has been one of the most interesting developments of the generation in which we live. Until a very short time ago, it was considered that the maintenance of the public health was a function which resided entirely within the medical profession. As time has gone on, however, it has become increasingly apparent that public health is more than the avoidance of sickness, and that it is not, by any means, entirely a medical problem. A careful study of the economics of disease has shown that it is necessary that every member of the body politic be educated in and interested with regard to the maintenance of life at the highest degree of physiological efficiency. This resulted in a great variety of movements, some of which have been wise, some of which have been over-zealous, some of which have been ill-timed or founded on false premises. It is not too much to say, however, that each has served in some way to give impetus to the great basic idea of the conservation of human health. Even the failures have brought good results by reason of the argument which they provoked and the interest which they attracted.

The latest of these forward movements is the endeavor which is being made in the direction of preventive surgery. Heretofore, we have been so busily engaged in telling people what they must not take into their bodies if they are to avoid serious medical conditions that we have almost overlooked the necessity of training the citizenship in the ways of avoiding serious surgical conditions.

The American First Aid Congress, which convened in Washington on August 23, 1915, had its conception in the brain of Dr. Joseph Colt Bloodgood, of Baltimore. It resulted in the passage of a resolution requesting the President of the United States to appoint a Board on the standardization of first-aid materials, methods, and instruction. President Wilson recognized that this was an opportunity for the general government to bring about a much-needed reform and, at the same time, to place in the hands of the civilian population simple yet accurate and authoritative data regarding first-aid and preventive surgery. The Board which he appointed is representative and includes medical officers from the Army, the Navy, and the Public Health Service, and representatives of the Red Cross and the surgical profession in this country. Its personnel is as follows: Dr. Richard H. Harte, Philadelphia, Pa., Chairman; Col. Louis A. La Garde, M.C., U. S. A., Washington, D. C., Vice Chairman; Asst. Surg. Gen. W. C. Rucker, U.S.P.H S., Washington, D. C., Secretary; Dr. J. P. Kaster, Topeka, Kansas; Dr. Samuel C. Plummer, Chicago, Ill.; Surg. A. M. Fauntleroy, Washington, D. C.; Dr. J. Shelton Horsley, Richmond, Va.; Maj. R. U. Patterson, M. C., U. S. A., Washington, D. C.

The Board was legalized by the Sundry Civil Act of July 1, 1916, which also carried with it a small appropriation which is being expended in co-operation with the Bureau of Labor Statistics.

The Board has approached this very important question in a careful manner, and is at present collecting data from a selected group of surgeons throughout this country. This material will be digested and incorporated in the report which the Board is to make to the President. Subsequently, when standards have been fixed, there will follow a propaganda of publicity, the endeavor being to educate the layman as to what he can,—and this is even more important—what he cannot and should not do in case of injury.

This is in reality an expansion of the public health idea,—another way of impressing upon the lay mind the sacredness of the human body. If the President's Board does no more than to teach the people of America that they must keep their fingers out of wounds, it will have accomplished

a great work. It follows, naturally, that if we are well trained according to standard methods in first aid for peace, that we will be trained in first-aid for war. Thus this movement is a part of the medico-military preparations of the United States. Already, a considerable number of Iowa surgeons have signified their willingness to co-operate by furnishing data to the Board. While this was to be expected from a profession which has always been patriotic both in peace and in war, it is none the less gratifying to see the way in which this fine spirit has been maintained.

JOHN DZURO BY HIS NEXT FRIEND, VS. DR. R. R. MORDEN AND DR. L. M. SCRUBY

It will be remembered that in a previous number of the Journal, we called attention to a suit in which the father claimed damages from the above named defendants for removing the tonsils of an eight year old boy without his consent. At the trial, Judge McHenry was convinced from the evidence that this boy was not damaged but rather benefited by the operation, and on the grounds of sound public policy, directed a verdict. It was shown in evidence that the mother had given consent and that the teacher and others testified that the child had greatly improved both physically and mentally as a result of the operation. In a New York case where the same state facts were presented to the Court as shown in this case on the first trial, the Court ordered the removal of the tonsils without the consent of the parents on the grounds of public policy, as held by Judge McHenry. We can thus see the difference between a strict constructionist and a Judge having a vision of public welfare.

It must be apparent to a careful physician that the practice of medicine is becoming too dangerous in Iowa for a conscientious practitioner who has the welfare of his patient in mind unless he can afford to employ an able attorney to direct his course of action.

The two cases were brought, one by the father for his damages. This was tried last September and resulted in a directed verdict for the defendant for the reason that the father had failed to prove that he was damaged. In the present case the plaintiff, of course, had evidence that the parents never consented to the operation and knew nothing of it until after it was done. We had evidence that there was consent but it was the evidence of children. At any rate there was a direct conflict in this testimony and that was a question for the jury. On the question of damages the Court instructed the jury that if they found that no consent was given by the parents, their verdict should be for the plaintiff for at least nominal damages, and if they found that there were actual damages, they should award plaintiff such damages as in their judgment he was entitled to.

It was conceded upon the trial that the operation was skillfully done but it was claimed that the child didn't need the operation, and the family physician, one Dr. Lambert, testified that he examined the child on two or three occasions prior to the operation and that the child had a mild form of acute bronchitis and that in his judgment an operation was improper. The parents testified to all kinds of difficulty that the boy had with his breathing after the operation; testified to his snoring badly at night; to his neck swelling up and becoming lumpy; to complaints of pain in the chest and inability to sleep. And this same Dr. Lambert testified that in his judgment these subsequent ailments were the result of the removal of the tonsils. Of course the contention seems perfectly ridiculous but by harping upon the proposition that the Almighty had placed the tonsils in the human body for some purpose, the jury was induced to render this verdict of $300.

The recent action taken by the Cerro Gordo County Medical Society in relation to division of fees, will no doubt, meet the approval of the profession everywhere. We indeed, had a right to expect such action in Cerro Gordo county and in Mason City where co-operative methods have been so well worked out and where the people may expect the co-ordinated skill of two well developed units:

Cerro Gordo Medics Place Ban on Fee Splitting

(Mason City Times)

That patients in need of surgical attention are being sold to the highest bidder like common property and that fee splitting, one of the greatest evils of the medical profession, is being practiced, was brought out in a discussion at the regular meeting of the Cerro Gordo County Medical Society held last night in the assembly room of the court house.

It was brought out at the meeting that physicians in many cases were in the habit of splitting their fees with the surgeon who performed the operation. It is said that by previous agreements between the physicians and surgeons when a patient is brought to the surgeon for an operation it was customary for the referring physician to expect a portion of the fee charged by the surgeon for his services. This habit, it is said, has grown so pernicious among many of the physicians, that they have been in the habit of taking their patients to the man offering the greatest portion of the fee.

To eliminate this practice, the following resolution was introduced by Dr. W. J. Egloff, secretary of the society; "Resolved: That any member of the Cerro

Gordo County Medical Society found guilty of fee splitting or fee devision or any secret or implied understanding between two or more physicians or surgeons, whereby any fee is divided between them, shall be expelled from the society and thereby automatically causing expulsion from the state and A. M. A. societies."

Dr. E. A. Graham of the Park hospital staff, proposed an amendment to the resolution as follows: "Resolved: That any member of the Cerro Cordo County Medical Society found guilty of fee splitting or fee division or any secret or implied understanding between any members and any other persons whereby any fees are secretly divided shall be, etc." Both resolution and amendment were passed by the society unanimously.

That Mason City is prepared for this public expression of high ideals, is shown by an editorial in the Mason City Morning Times.

After calling attention to the fact that Cerro Gordo County Medical Society was the first in the state to adopt anti fee-splitting resolutions—and unanimously—says:

"Fee splitting leads to professional murder and two doctors with an understanding that patients are to be influenced to undergo operations for the purpose only of procuring fees to be divided, are conspirators.

There are instances, undoubtedly, where surgical operations are necessary, to save life, but the doctor who will cart his patient to a hospital to be operated on and who receives any portion of the operating fee, is a thief.

The editorial further says:

"The fee splitter and the avaricious surgeon have degraded the profession much more than the profession really comprehends. The same confidence is not now held in the physician and the surgeon that was known in years gone by. Sharks in the profession have pulled the profession down until it has not the standing now it formerly enjoyed. There are exceptions to be sure, and we have yet some of the old-time physician friends against whom the hand of suspicion is not raised, but as a class they furnish the vaudeville and burlesque stage with typical characters for suggestive figures.

Physicians and surgeons, as a class, have fallen for the newer commercial ideas. Friendly relations which formerly prevailed have been converted into a species of graft and the most unethical practices have largely prevailed, far more degrading than newspaper advertising.

"The Cerro Gordo County Medical Society, in taking such a radical stand against the corrupt practice act, is entitled to the thanks of every good citizen in the State of Iowa becausc it is striking at crime, quackery and dishonor. It takes an important stand in a purification of the profession in the direction of the re-establishment of the old honor system where a physician's opinion was sacred and where he refused to violate confidences at so much per.

"The Times heartily congratulates the physicians of the county upon the bold stand taken in announcing to the world that they propose to clean their own stables. Societies in every county should follow the example because the fee splitting and the interlocking commercial enterprises in professionalism have a much wider organization in the state than the medical societies will admit.

"Next to the Savior of mankind, the family physician stood in the affections of the family circle because the family physician was not using his influence to squeeze out another dollar through operations or other systems of interlocking graft. The Cerro Gordo Medical Society has taken the first important stand towards re-establishing the honor system. The work should not stop with this one resolution."

We regret that we cannot print all of this long and most opportune editorial, but we have abstracted enough to show that Cerro Gordo County Medical Society is fortunate in having so strong an advocate as the Mason City Morning Times in forwarding the cause of medical righteousness.

BIOGRAPHIC SKETCH OF DR. EMIL HESSEL BECKMAN

(Presented at the Joint Memorial Meeting of the Olmsted County Medical Society, the Mayo Clinic, and the Mayo Foundation, November 8, 1916, by Dr. Louis B. Wilson.)

Dr. Emil Hessel Beckman was born February 15, 1872, at Grundy Center, Iowa. His father was a native of Germany, and his mother of America. After passing through the public schools of Grundy Center, Iowa, he entered Iowa College at Grinnell, Iowa, and graduated therefrom in 1894 with the degree of Bachelor of Philosophy. He taught school one year in the country in Iowa, and then became principal of the high school at Stillwater, Minnesota, where he also taught Latin and Greek After three years in this position he entered the medical department of the University of Minnesota, and graduated from the College of Medicine and Surgery in 1901. In his vacation between his junior and senior years, he assisted Dr. Charles Granger in medical practice in Rochester, Minnesota. During his senior year in medicine he served as under-graduate intern in the City and County Hospital of St. Paul, Minnesota.

In July, 1901, Dr. Beckman became assistant bacteriologist in the laboratory of the Minnesota State Board of Health at the State University, a position which he held for four years. At that time the epidemiological work of the Board was handled largely through the laboratory, and much of Dr. Beckman's time was spent in investigating

epidemics of diphtheria, small-pox scarlet fever, etc. He early grew to be an authority on the diagnosis of small-pox, a disease in which he obtained a very large experience in a relatively short period. He was especially skillful in ferreting out and isolating sources of infection in diphtheria, scarlet fever and typhoid fever. One of his most notable pieces of work in epidemiology consisted in running down and successfully blocking a series of local epidemics of scarlet fever associated with virulent streptococcæmia which had been disseminated in Minnesota and the surrounding states by a number of infected students sent home from a small college in the Twin Cities. The stopping of this epidemic, which was one of the most virulent known in the annals of the disease, was due almost entirely to Dr. Beckman's vigorous personal work.

In the laboratory proper, his work consisted largely in the routine diagnosis of diphtheria, typhoid fever, rabies, etc. He was engaged along with Wesbrook, Wilson and McDaniel in researches on the variation and distribution of the morphologic types of bacillus diphtheriæ and on means of isolating and identifying bacillus typhosus from various sources, and with Wilson and Brimhall in studies on hemorrhagic septicemia in various domesticated animals. Working alone he isolated and experimented extensively with the most virulent strain of bacillus then known and developed an important modification of the technic for isolating bacillus typhosus. It is probable that his taste for surgery developed in the large amount of experimental work on animals which he did in the State Board of Health laboratory during his association therewith.

In July, 1905, he was appointed city physician in Minneapolis, thus being placed in charge of the City Hospital. In addition to his duties as superintendent he held a gynecological service, thus having an opportunity to obtain some experience in surgery. He held this position for a year and nine months, leaving it to accept work in the Mayo Clinic on April 1, 1907

Dr. Beckman's first position in the Mayo Clinic was as first assistant to Dr. C. H. Mayo. He held this post for four years, during which time he profited well under the skillful instruction of that master of surgical technic. Early also he evinced keen clinical and surgical judgment, which stood him so well in hand when he became the head of Surgical Section Four, his position at the time of his death. Here his work excited the admiration of all who saw it. One noted Scotch visiting doctor said of it, "Dr. Beckman's operative work is as beautiful to watch as the playing of golf by a professional." His fine intuition guided him clearly along the difficult path of decision as to when to withhold as well as when to use his rare skill for the best interest of his patient. While his work covered the field of general surgery, his skill was most evidenced in fine dissections of the cervical region in the presence of tuberculosis and cancer, in the correction of deformities of the nose and mouth, in operations on the thorax and lungs, and in operations for relief of diseases of the brain, spinal and nerve ganglia.

Dr. Beckman both spoke and wrote clear, correct and forceful English. During the nine and a half years he was in the Mayo Clinic, he became the author of twenty-nine scientific papers.

STATE PSYCHOPATHIC HOSPITAL

In his address Dr. Barrett discussed the organization of the modern Psychopathic Hospital and its field of work. This is an institution of limited capacity provided with facilities for the diagnosis and treatment of all forms of mental illness and having at its disposal the best that modern medicine offers for solving the problems relating to mental diseases. While it is suited for the treatment of all forms of mental illness its greatest usefulness will be the treatment of those forms of mental abnormalities which stand between sanity and insanity, and for which the state makes no provision.

It is an organization which should be active in investigations into the causes of mental disorders and methods of their prevention. These investigations would concern not only the individual as a patient but also the relation of his disorder to his family and to the social life in which he lives. The results of these investigations would do much to relieve present suffering and prevent future disease. To serve the state in a most efficient manner it should be located in close relation with the medical school of the State University

The functions of the State Psychopathic Hospital may be embraced in five divisions of activities.

I. The observation and treatment of patients. These should be admitted from any part of the state. The hospital should limit its admissions to mental disorders in their early phase and to cases having perplexing problems for diagnosis. It should exclude, as far as possible, cases whose problem is that of custody and who at the outset offer no hope of benefit from treatment. A considerable number of admissions should be individuals, both juvenile and adult, who are matters

of concern to social welfare organizations, to the juvenile courts and to probation officers. It should undertake the observation of individuals who are accused of crime but whose mental responsibility is in doubt.

Conditions surrounding admission to the Psychopathic Hospital should be as free as possible from formalities. Voluntary admissions should be encouraged and all committments to the hospital should be by an order for temporary observation.

Patients discharged from the Psychopathic Hospital would be returned to their families or to the state hospitals for the insane.

II. The second function of the State Psychopathic Hospital would be research and investigation. In this, all problems related to the pathology of mental disorders and to their causation and prevention should be attacked. The hospital should be well provided with laboratories under the charge of competent workers. It is not sufficient that investigations be limited to the clinical and laboratory aspects of insanity and mental diseases. The source and continuance of these conditions lie for the greater part outside of institutional control. They are intimately related to the life and customs of the people of the state. Knowledge leading to their prevention must come from a wide variety of fields.

III. The third function of the Psychopathic Hospital is instruction of medical students. No medical school without a special institution of the character of a Psychopathic Hospital can adequately prepare its graduates for the practice of medicine. Instruction in mental diseases has been far less efficient than that of other branches of medicine. The hope of recovery from mental diseases lies in the recognition of abnormalities which lead to their later development. Effective efforts towards the prevention of insanity can only come when the practicing physician is informed as to their causes and is skilled in their diagnosis.

IV. The fourth division is that of social service. This is a distinctly modern feature of hospital work and one in which the Psychopathic Hospital may be of great service. Under this head are included activities of the hospital which lie outside of its walls. These consist of the direction of services for out-patients both at the hospital and in centers of larger population throughout the state; investigations among the families of the patients; supervision of dis charged patients; educational efforts for the dissemination of knowledge among the public as to the nature of mental disorders and their prevention.

In this work there should be co-operation with local organizations interested in social welfare work.

V. Co-operative work with the state hospitals for the insane. This would be through the interchange of patients between the two types of institutions; through the development of centralized laboratory work; and the maintenance of a coherent policy in the attack which the state is making upon the causes and prevention of insanity

To establish such an institution a liberal appropriation should be made and the organization provided with all that it needs to successfully carry out its purposes. Its field of work not only concerns the present but the future. It offers the most rational way of approach in solving the problem of the increasing mental and nervous disorders. It is inevitable that if this institution be established that the future problems of insanity and mental abnormalities will be less urgent and in the present time a new spirit will govern our attitude towards insanity and its social relations.

AMERICAN MEDICAL EDITORS' ASSOCIATION

The annual meeting of this Association was held on the 25th and 26th of October, at the McAlpin Hotel, New York.

A most interesting program was presented, and the symposium relating to the "Doctor and the Law," with especial reference to Anti-Narcotic Legislation, presented on Wednesday afternoon, created widespread interest and a large attendance from the profession, the judiciary, the internal revenue department and drug manufacturers.

The officers elected for 1916-1917 were as follows: President, Geo. M. Piersol, M.D., Philadelphia, Pa., (editor, American Journal Medical Sciences); first vice-president, Geo. W. Kosmak, M.D., New York, (editor, American Journal of Obstetrics); second vice-president, Robert M. Green, M.D., Boston Mass., (editor. Boston Medical and Surgical Journal); secretary and treasurer, J. MacDonald, Jr., M.D., New York, (managing editor, American Journal of Surgery).

Executive Committee—C. F. Taylor, M.D., Philadelphia, Pa., (editor, Medical World); A. S. Burdick, M.D., Chicago, Ills., (editor, American Journal Clinical Medicine); D. S. Fairchild, M.D., Clinton, Ia., (editor Journal Iowa State Medical Society).

Dr. H. Edwin Lewis, New York, (editor, American Medicine), chairman of the publication committee and editor of the Journal of the American Medical Editors' Association.

The next annual meeting will be held in New York, with headquarters at the McAlpin Hotel on June 4 and 5, 1917.

PHILIP MILLS JONES—MARTIN I. WILBERT

In its campaign for the advancement of scientific medicine, for truth in medical advertising, for honest and truthworthy medicinal preparations, the American Medical Association has been twice blessed—in its enemies and in its friends. At times, when certain of these enemies have passed to their reward the loss has been felt because frequently they, themselves, were an argument for the Association's work.

The last week has taken from the ranks two of the best friends and ablest proponents of scientific and honest medicine that the medical profession had; Philip Mills Jones, a trustee of the Association since 1908, and Martin I. Wilbert, a member of the Council on Pharmacy and Chemistry since its establishment in 1905 and the secretary of the Section on Pharmacology and Therapeutics since 1911. The work of these two men has been far reaching in its scope.

For eight years Dr. Philip Mills Jones was a member of the board of trustees, in which position he worked faithfully, and was fearless in his stand for what he believed to be right and just. He was secretary of the Medical Society of the State of California and editor of its journal for fifteen years, and it was in these offices that his most effective work was done. Through his efforts the California profession developed one of the best organizations of any state—one that is doing splendid work—professionally, socially and scientifically. He made the California State Journal of Medicine a publication of influence not only within its own territory, but also in other parts of the country. As editor of this journal Dr. Jones was especially fearless in his attacks on fraud and quackery, whether it concerned the proprietary medicine evils or quackery as it related to the medical profession.

Mr. M. I. Wilbert, of the U. S. Public Health Service, was one of the first men to become active in the organization of the Council on Pharmacy and Chemistry. He was interested in this body from its formation, and after it was established he continued to be one of its most tireless workers. Few know the sacrifices of time and efforts Mr. Wilbert made in connection with the council work. His very life seemed to be wrapped up in bringing about better conditions both in pharmacy and in medicine. He was one of the few men who serve as connecting links between the two professions. He spent his life in trying to stem the tide of commercialism in both, and the full measure of his influence at Washington in behalf of the public health will never be fully known.

American medicine has felt the influence of these two men, and for the success gained in the campaign for truth, they must be awarded more than a small share of the credit. They gave freely of their time and their energy, knowing that it would bring them neither profit nor personal fame—indeed, knowing that it would make for them powerful and often unscrupulous enemies. They were nevertheless unwavering in their assistance, ever ready to do more than was asked in the work in which they took part. The loss is not merely the medical profession's; it is also the public's.—Journal American Medical Association, December 2, 1916.

IMPORTANT DECISION IN THE ADMINISTRATION OF THE WORKMEN'S COMPENSATION

A claimant was refused more than nineteen weeks payments on the ground that the injured person had syphilis which retarded the healing of a wound received in his employment. The Industrial Accident Board of Michigan found no evidence of active disease in the applicant prior to injury and declined to relieve the respondents.

The Board held that "the question to be determined in cases of continuing disability would be whether the injury should have healed, or whether it should have healed more quickly than it did instead of the actual resulting disability." It would present for decision the question as to how much he should have suffered and how soon he should have recovered upon the theory that only a part of the disability was due to the injury and the remaining part due to disease." The compensation law does not fix any standard of physical health nor does it make any exceptions for cases of injuries to men whose health is impaired or below the normal standard; neither does it exempt from the benefits of the law the man who carries in his body a latent disease which in case of injury, may retard or prevent recovery. The law by its express terms to every man who suffers disability from injury, does not exclude the weak nor the less fortunate physically, but was intended for the workmen of the state generally." The Supreme Court in reviewing the case says: "The consequences of the injury extend through the entire period and so long as the incapacity of the employe for work result from the injury, it comes within the statute even when prolonged by pre-existing disease."

HEALTH INSURANCE

Compulsory health insurance for wage-earners, which is now being strongly advocated in this country, is pretty certain to be given advancement by the adoption of the measure as a plank in the platform of the national liberal party of Canada, led by Sir Wilfrid Laurier. Compulsory insurance, with provision for contributions from the state, employers and employes, has already been established in Germany, Austria-Hungary, Russia, Great Britain, Holland, Norway, Rumania and Servia. The new Canadian plan includes maternity benefits. There is considerable expectation that the conservative party will follow the liberal lead and that legislation will follow soon after the war. A model bill for the United States has been drafted by the American Association for labor legislation and will be introduced next year, the association announces, in twenty state legislatures.—(Boston Medical and Surgical Journal.)

PRESIDENT VINCENT OF MINNESOTA TO BE HEAD OF ROCKEFELLER FOUNDATION

Announcement is made that Mr. John D. Rockefeller, Jr., who has been president of the Rockefeller Foundation since it was charactered in 1913, has resigned, his resignation to take effect on May 15, 1917, when he will become chairman of the board of trustees. Mr. Rockefeller will be succeeded as head of the foundation by George Edgar Vincent, Ph.D., LL.D., president of the University of Minnesota and formerly dean of the faculties of arts, literature, and science of the University of Chicago. The reason given for Mr. Rockefeller's retirement is that the activities of the foundation have become so varied and important that it is necessary for some one to give his entire time to the work. It is announced further that there will be no change in the policy of the foundation.

RESOLUTION ADOPTED BY THE AUSTIN FLINT-CEDAR VALLEY MEDICAL SOCIETY AT THEIR ANNUAL AUTUMN MEETING HELD AT CHARLES CITY, IOWA, NOVEMBER 14, 1916

Resolved, That the Austin Flint-Cedar Valley Medical Society, at their regular meeting, held in Charles City, Iowa, November 14, 1916, representing a membership of more than 300, express its disapproval of the workmen's compensation fee bill submitted at the last meeting of the State Society, and recommend that the question be referred to the several county medical societies of the state.

Resolved, That a copy of this resolution be sent to the Iowa State Medical Journal for publication.

MORBIDITY AND MORTALITY OF TROOPS

Report from Washington on October 4 states that during the week ended September 30, the morbidity percentage among militia troops on the Mexican border was 2.25, with seven deaths, as against 2.38 and six deaths for the preceding week. The corresponding figures for regular troops during the same period was 3.42, with five deaths, as compared with 2.53 and seven deaths for the previous week.

HERNIA—EXPERT TESTIMONY

In a railroad employe's action for hernia, alleged to have resulted from an electric shock, expert testimony that it probably resulted from a shock operating upon some weakness in the abdominal wall was admissible, without preliminary showing of such weakness.—Murphy vs. N. Y., N. H. & H. R. Co., 157 N. Y. Supl. 962 (N. Y.).

MISSIONARY HOSPITAL WORK IN INDIA

Qualified medical man required who is in sympathy with religious work. Passage paid and a small monthly allowance made. Three years agreement. Apply, sending copies of testimonials. Commissioner Thomas Estill, Salvation Army Headquarters, 108 N. Dearborn Street, Chicago, Illinois.

THOMAS ESTILL, Commissioner.

The Editor of the Eclectic Medical Journal in a spirit of thanksgiving enumerates among the reasons thereof, one in particular which should meet the approbation of every real medical practitioner. The expressions of good feeling and harmonious action are so much in advance of earlier sectarian discord, that we offer this to our readers for their heartiest approval.

"In the world of medicine there are no unwelcome and disturbing innovations. No one, on a large scale at least, is startling the world with "infallible cures" for consumption, cancer, and the like. Doctors are working in harmony for the public good and mortality rates are slowly but surely decreasing. For this alone should all be thankful. There is daily apparent more and more progress toward unanimity in regard to theories of the causation of disease and problems of etiology are being more clearly worked out and accepted. The obstructionist with his self-conceived theories and fancies, unsubstantiated by scientific proof, is slowly but surely passing from the field of medicine."

The Faculty of the College of Medicine of the University of Iowa has appointed from its members a commission to make a survey of the public schools at Wapello.

The chairman of the commission is Doctor Mark F. Boyd, head of the department of epidemiology.

The faculty desires to make a complete report of the survey, and the method in which it is being conducted will be published.

NEPHRITIS

A review of the literature of nephritis of the past two or three years is given by W. Ophuls, San Francisco (Journal A. M. A., November 13, 1915), and also the results of his own investigations, the material of which comprised "eight cases of amyloid disease associated with chronic parenchymatous nephritis, thirty-four cases of general arteriosclerosis with cardiac hypertrophy, in which the kidneys were slightly involved in twelve and moderately diseased in twenty-two cases. In addition there were eight cases of general arteriosclerosis with more extensive renal lesions of the type described in my first paper as arteriosclerotic nephritis. The most interesting group was that of thirty-two cases of glomerulonephritis of which four were acute, eight subacute, seventeen chronic; in addition, belonging to the last group, there were three cases in children which it was difficult to classify on account of the peculiar mixture of subacute and chronic lesions in them." The cases thus classified are discussed in the order

mentioned, with their symptoms, etiology, etc., at considerable length, and in the summary of his findings he says: "1. Nephritis from an anatomic point of view may be best subdivided into (a) acute, subacute and chronic parenchymatous nephritis which is very frequently associated with amyloid; (b) acute, subacute and chronic glomerulonephritis to which class belong most of the cases with continued definite urinary findings, renal hypertension, uremia and other definite symptoms of renal disease. 2. Hypertonic cardiovascular disease may involve the kidneys more or less extensively, often causes certain functional disturbances in the kidneys, may cause contracted kidney, but should be segregated entirely from true nephritis. 3. The cause of true nephritis is continued bacterial septicemia, and the lesions in the kidneys are probably due to rapid bacteriolysis and incidental liberation of large doses of toxic material in and about the affected glomeruli. 4. The lesions in the arterioles, in at least some of the more chronic cases, are due to the organization of a hyaline (thrombotic?) deposit on the inner surface of the arteries which at times is found underneath the endothelium."

BOOK REVIEWS

THE MEDICAL CLINICS OF CHICAGO

Volume II, Number 3, November, 1916. Octavo of 211 Pages, 44 Illustrations. W. B. Saunders Company, 1916. Philadelphia and London. Price Per Year: Paper $8.00, Cloth $12.00.

The contributions to this number are of unusual interest from the internist point of view. The first clinics are from Cook County Hospital by Dr. Walter W. Hamberger under the title of "The Modern Medical Treatment of the Stomach and Duodenum." The weak point in the medical discussion of chronic gastric ulcers, lies in the fact that no one knows from a series of cases how many ulcers were cured that were not subjected to the test insisted on by the surgeon. Every surgeon of experience knows of many chronic ulcers of the stomach cured repeatedly by internists, were not ulcers at all. Until the absurdities of the "American Gastro-Enterological Societies" are amended, they cannot expect the full confidence of the profession.

A considerable part of this number is devoted to "Acute Poliomyelitis," a clinic at Michael Reese Hospital by Dr. Isaac A. Abt, and at Cook County by Dr. Ralph C. Hamil.

Two cases of "Primary Pernicious Anemia" at Mercy Hospital are presented by Dr. Charles L. Mix. Several other medical clinics are presented in this number of considerable interest. The general practitioner will find much interesting matter in these clinics that will be helpful in his work.

INFECTIONS OF THE HAND

A Guide to the Surgical Treatment of Acute and Chronic Suppurative Processes in the Fingers, Hand and Forearm. By Allen B. Kanavel, M.D., Assistant Professor of Surgery, Northwestern University Medical School; Attending Surgeon, Wesley and Cook County Hospitals, Chicago. New (3d) Edition, Thoroughly Revised. Octavo, 498 Pages, With 161 Illustrations. Cloth, $3.75, Net. Lea & Febiger, Publishers, Philadelphia and New York, 1916.

The call for a third edition of this splendid work has given the author opportunity to add two new chapters, one on the Relation of Acute Infectious Processes to Industrial Pursuits, and a second on Plastic Procedures Instituted for the Correction of Deformities. Both of these chapters contain much valuable information.

Of particular interest and value is the chapter on the general principles of the treatment of hand infections. The suggestions made are thoroughly sound, and so clearly explained that one can hardly fail to understand and intelligently practice the methods.

Bier's Hyperæmia is recommended "in selected cases," but with considerable judicious reserve, as if the author had serious doubts as to its real value, or as if "selected cases" were few and far between. He says, speaking of Bier's method, that it may be used where it is particularly desirable to prevent rapid absorption of toxins into the circulation, in low grade infections, and in localized abscesses that do not drain freely. The extravagant claims of the early advocates of this method are by no means endorsed.

The careful study of the anatomy of the hand and forearm, with special reference to fascial spaces and tendon sheaths, all fully illustrated by many schematic drawings and wood cuts, clearly indicates the special dangers in given cases of infection, and also the most suitable points for incision. General anæsthesia is recommended whenever making incisions, gas-oxygen being preferred, a choice that will be accepted with considerable reserve by those not yet convinced that gas-oxygen is as safe as ether.

The chapter on the treatment of acute suppurative tenosynovitis is the most valuable. The note of warning in regard to the dangers of carbolic acid dressings is to the point.

Altogether, the book is free from fads, thoroughly practical, fully covers the subjects indicated in its title, and is a very safe guide in their treatment. It is a pleasure to compliment Dr. Kanavel on the completeness and value of the third edition of his book on Hand Infections. L. W. L.

ANNOUNCEMENT

In February, 1917, the first number of the "Surgical Clinics of Chicago" will be issued and will cover all departments of surgery from the clinical side, giving particular emphasis to differential diagnosis and treatment. For this reason they will appeal, not only to the surgeon, but to practitioner and specialist.

The clinics will give you the actual word for word clinics of thirty great teacher surgeons of Chicago, representing most of the important hospitals of this great center of post-graduate instruction. We cannot begin to tell you of the great value of these clinics, but, no matter, where you are situated, you will be kept posted on the latest developments, right up to the moment of going to press.

Like Murphy's Surgical Clinics, which they supersede, the numbers will be issued every other month (six parts a year) and the price per year's subscription is $8.00 in paper and $12.00 in cloth. Subscriptions start with the first (February) number and for full years only.

DISEASES OF THE SKIN

By Richard L. Sutton, M.D., Professor of Diseases of the Skin, University of Kansas Medical School. Published by C. V. Mosby Company, St. Louis, Mo., 1916.

This volume presents the entire field of diseases of the skin in a manner at once complete and without unnecessary padding. Its contents comprise not only the personal views of the author, but the knowledge of dermatologists all over the world, in a style concise and logical. Special attention is paid to the pathology and treatment of skin troubles, as the pathology is admittedly the necessary foundation for the principles of rational skin therapy.

The volume opens with the usual general discussion of Anatomy and Physiology, Etiology, Pathology, and Symptomatology, and General Diagnosis and Treatment, internal and external. This is succeeded by an outline of classification with the general subject matter following.

CONSTIPATION, OBSTIPATION AND INTESTINAL STASIS

By Samuel Goodwin Gant, M.D., L.L.D., Professor of Diseases of the Colon, Sigmoid Flexure, Rectum and Anus, in the New York Post-Graduate Medical School and Hospital. Second Edition Enlarged. Octavo of 584 Pages, With 258 Illustrations. W. B. Saunders Company, 1916, Philadelphia and London. Cloth $6.00 Net; Half Morocco $7.50 Net.

In the preface of the first edition, the author states that the purpose of the writer was to present to the profession a concise and practical treatise on the etiology, etc., of constipation and obstipation. In the second edition on account of the favorable reception of the first edition, the author has been encouraged to make some changes and to add seven new chapters to make the work more complete.

After considering the anatomy and physiology of the intestinal tract, the author takes up a most exhaustive discussion of constipation. It is so well known that failure of co-operation on the part of the patient is the greatest obstacle to satisfactory treatment, as scarcely to need attention. Probably every physician in America has daily, patients who expect to receive a box of pills or a bottle of medicine which will cure him of constipation without effort on his part and passes from one physician to another with the same story of failure.

Dr. Gant in his book constantly presses on the physician the necessity of making a thorough investigation of all the factors which cause constipation and then by patient instruction and judicious administration of medicines, bring the patient under the influence of the doctor, get him interested and finally secure relief or cure. The failure of many physicians to relieve their patients is due to indifference in investigating their condition, the apparent interest being to find a market for their anticonstipation pills The author constantly warns the practitioner to be on the lookout for mechanical causes of obstipation and presents a series of possible mechanical conditions which may need surgical consideration. The author at some length reviews the psychic, hydrotherapeutic and massage treatment which is of so much importance in certain classes of patients.

After reading Dr. Gant's book, one is quite convinced that nearly all cases of chronic constipation could be cured or greatly relieved by appropriate treatment and earnest effort to ascertain the causes and conditions, and by manifesting an interest in the patient to the extent of enlisting his confidence and co-operation, and not by treating him in a perfunctory manner.

Several chapters are devoted to forms of treatment, which can only be fully appreciated by the specialist who is familiar with scientific apparatus—as electricity—and who has the patient fully under his control. There are a considerable number of cases of mechanical constipation which can only be treated by surgical means, and a part of the work is given to the consideration of approved methods employed by the author and by others who can speak with authority.

The book is well written and can be easily followed by the physician or surgeon who has the industry to work out a procedure that the practice of medicine and surgery demands of him.

BLOOD PRESSURE—FROM THE CLINICAL STANDPOINT

By Francis Ashley Faught, M.D., Formerly Director of the Laboratory of Clinical Medicine at the Medico-Chirurgical College, Philadelphia. Second Edition, Thoroughly Revised. Octavo of 478 Pages Illustrated. W. B. Saunders Company, 1916. Philadelphia and London.

Three years have elapsed since the first edition appeared, and during that time some additional information has been gathered and some improvement in methods of study which has resulted in the addition of some 200 pages in the new edition. The greater part has been rewritten, particularly that part which relates to arteriosclerosis, nephritis and cardiac disease, and fifty pages added. The value of the sphygmomanometer in life insurance has not

been changed since the first edition. We assume that Dr. Faught's views are based on the presumption that the instrument is in the hands of trained physicians, which life insurance companies do not always employ.

In relation to a study of blood-pressure in surgery, the author has presented the subject in a more definite manner than in the first edition. Surgeons were not quite ready to accept the rather dogmatic assertions of the blood-pressure advocates, but in the second edition, Dr. Faught has pointed out more definite reasons for its use.

From an examination of the book, we feel quite sure the profession will welcome the new edition for its fuller and more definite statement of the value of the sphygmomanometer in medicine.

COMING MEETINGS

The Southwestern Iowa Medical Society will meet at Creston, February 15.

SOCIETY PROCEEDINGS

The Audubon County Medical Society at their annual meeting held December 29 at Audubon elected the following officers: President, R. A. Jacobson, Exira: vice-president, Peder Soe, Kimballton; secretary-treasurer, Wm. H. Halloran, Audubon.

The Butler County Medical Society held their annual meeting with Dr. D. N. Reeve, of Allison, November 27. The officers elected were: President, Henry N. Bruechert, Parkersburg; vice-president, J. A. Rolfe, Aplington; secretary-treasurer, M. B. Call, Greene; delegate, B. Ensley, Shell Rock; Alternate, D. N. Reeve, Allison.

The annual meeting of the Boone County Medical Society was held at Luther, December 12, at the home of S. H. Allen. Ten physicians from Boone and vicinity enjoyed the supper served after the business session as well as the inspection of the fine consolidated school building recently completed at Luther. Officers elected are: President, C. L. Updegraft, Boone; vice-president, Wm. Woodburn, Woodward; secretary-treasurer, B. T. Whitaker, Boone; delegate, A. B. Deering; alternate, M. A. Healy, both of Boone.

The Buchanan County Medical Society held their annual meeting at Knights of Pythias hall, Independence, December 22. The guests of the society were the dentists of Independence and their wives, and the wives of the society members. Epilepsy was the subject presented by two of the members. Dr. J. B. Rogers, speaking from the Etiologic standpoint, and Dr. W. P. Crumbacker gave some Observations on Epilepsy. Dr. E. A. Schrader read a paper on Dental Foci of Infection.

The officers chosen for the year are: H. A. Householder, Winthrop, president; B. B. Sells, Independence, secretary-treasurer. Following the program a banquet was served and a musical program added to the enjoyment of this excellent meeting.

The annual meeting of the Cerro Gordo County Medical Society held in the assembly room of the court house at Mason City, December 27 was one of the largest meetings ever held by the society. Dr. C. L. Marston, president, in his annual address commended the society on the progress made during the year and emphasized the fact that Mason City is fast becoming the medical center for that section of the state.

The report of the secretary, W. J. Egloff, showed that the society membership had increased over 50 per cent. the past year. A committee composed of Drs. E. A. Graham, W. J. Egloff and S. O'Brien was appointed to arrange for the establishment of a medical library at Mason City. Dr. A. L. Wheeler, of the health department was made an honorary member.

Resolutions commending the press of Mason City for the publicity given medical matters in the county and for co-operation in the crusade against fee-splitting, were unanimously passed. The officers re-elected for the coming year are: President, C. L. Marston; vice-president, W. E. Long; secretary-treasurer, W. J. Egloff; delegate, G. C. Stockman, all of Mason City. Music and readings contributed to the social feature of the evening.

At a meeting of the Cass County Medical Society held at Atlantic, December 6, the following officers were re-elected: President, W. S. Greenleaf, Atlantic; vice-president, W. F. Graham, Atlantic; secretary-treasurer, M. F. Stults, Wiota.

The Calhoun County Medical Society held their annual meeting at Rockwell City, December 21, with a large representation present. P. S. Holdeogle and Ross Gray, members of the coming session of the legislature, were present. The Workmen's Compensation Act and Proposed Medical Legislation, was the subject for discussion on this occasion. The members and guests were served supper at the Brower Hotel. Officers elected for the year are: N. C. Kepler, Jolly, president; L. D. Hews, Rockwell City, vice-president; F. V. Hibbs, Lohrville, secretary-treasurer; delegate, D. J. Townsend, Lohrville. The next meeting will be held January 18 at Rockwell City.

At the annual meeting of the Chickasaw County Medical Society held recently, the following officers were elected: President, J. A. Rawlins, Ionia; vice-president, H. D. Fallows, New Hampton; secretary-treasurer, Paul E. Gardner, New Hampton; delegate, N. Schilling, New Hampton.

The Davis County Medical Society held their December meeting in Bloomfield on the fourteenth. An excellent program, prepared by the secretary,

Dr. H. C. Young, was rendered in due form.

Dr. C. C. Heady, Bloomfield, in presenting the subject "The Prophylaxis of Tuberculosis," pointed out that from an economic and humantarium standpoint this matter was of paramount importance to the people. While great strides had been made in the prevention and spread of this disease, the essayist held that much more could be accomplished by the supervision of those already infected, and in educating those not yet afflicted. Education should be commenced in the primary schools and should continue throughout the public school course.

Soda fountain managers should be compelled by law to sterilize glasses, dishes and spoons. All houses occupied by tuberculous persons should be thoroughly disinfected immediately on the death of the afflicted party or upon their removal therefrom and before another family was allowed to move in. Tuberculous teachers and children should be excluded from the public schools; in fact, this rule should be extended to include employes of all factories, shops, stores, general hospitals, etc., wherever large numbers of people congregate. Infected persons should be carefully instructed as to how best to avoid infecting others and when willfully refractory in this respect, as many unfortunately are, they should be kept under rigid supervision or be isolated. If the profession will work diligently to this end, Heady held that the mortality from tuberculosis could be greatly reduced and the disease possibly eradicated in time.

Discussed by Drs. Shelton, Finch, Spillman and Heady.

Dr. H. W. Vinson, Ottumwa, read a paper on "Pituitrin in Obstetrics."

The essayist stated that it had occurred to him, in this connection, that in the secretion of the pituitary body one might find an explanation of the cause of labor. During pregnancy one finds a gradual increase in the size and function of all the glanduiar structures of the body; is it not therefore possible to presume that the secretion of the pituitary body being thus increased month by month that there might not occur an excess of the secretion at the end of the ninth month, thus bringing on labor by exciting intermittent contractions of the uterus?

Therapeutically, pituitrin is a very potent drug and if used indicriminately may prove to be a two edged sword. The chief indications for its use are: 1. Inertia of the uterus. 2. Postpartum in hemorrhage. 3. Paresis of the bowel.

The chief contraindications of pituitrin are according to Vinson: 1. Any impediment to the passage of the child. 2. Eclampsia or high blood-pressure. Occasionally, as in exhaustion of the uterine muscle, one may get no response to the drug. Vinson stated that he had seen cases who had failed to respond immediately to the drug but who developed violent contractions on the second or third day; also to have had three cases of pallid asphyxia all in primaparæ following long labors.

In closing the essayist stated that pituitrin should never be used to save the Doctor's time, if a man is too busy to wait on normal labor he has no place in obstetrics; that the careful obstetrician finds pituitrin a valuable ally but disaster awaits those who underestimate the force of such a powerful agent.

Discussed by Drs. Saar, Downing, Shelton, Young, Finch and Vinson.

Dr. P. F. Guernsey, Bloomfield, in discussing "The Collection of Material for Bacteriologic Examination," pointed out that this is frequently so carelessly done, that the specimen reaches the examiner in such a condition that it is totally unfit for examination. Pus or blood smears are not infrequently spread too thick to transmit the necessary light for microscopic examination, or materials for culture or for autogenous vaccines are grossly contaminated.

Pus should be spread very thinly on a clean slide so that the dried film is fairly transparent when held up to the light. Very few smears are spread too thin; the great majority are spread much too thick. The smear should be "fixed" and sterilized by passing the slide slowly through a flame three or four times with the film side up. Three or four slides should always be prepared to guard against breakage, and to enable the examiner to use more than one staining method. Pus taken for culture should be collected very carefully to avoid contamination.

Urine must be drawn through a sterile catheter into a sterile receptacle after the external genitalia have been thoroughly cleansed in order to avoid colon and smegma contamination.

Sputum for examination must be sputum, not hawked up naso-pharyngeal secretions. The mouth and teeth should be previously cleansed and a sterile receptacle used.

Blood cultures are best taken in some of the special tubes devised for this purpose.

Blood smears for cellular study are of little value unless spread very thinly and evenly. A small drop of blood should only be used.

Discussed by Drs. Spillman, Bannister, Vinson and Guernsey.

Dr. H. C. Young, Bloomfield, closed the program with a paper on "Vaccines." In closing he said:

"The average practitioner who makes use of these agents must use them more or less empirically, unless he is somewhat of a bacteriologist, as few of us are. We must be guided by the general rules laid down by men who have made an exhaustive study of the subject, since the success or failure of vaccine therapy depends primarily on the proper selection of cases, the careful graduation of dosage, and the interval of administration, being guided always in each case by the individual's reaction. Vaccines cannot be given by rule of thumb. In a general way, small oft repeated doses are indicated in acute conditions and larger doses at greater intervals are indicated in chronic conditions.

The value of typhoid vaccine as a preventative is universally conceded, and in my opinion this vaccine is the coming treatment for typhoid fever."

Discussed by Drs. Howell, Vinson, Guernsey, Bannister, Saar, Beauchamp, Downing and Young.

The following officers were elected for the ensuing year: President, P. F. Guernsey, Bloomfield; vice-president, J. G. Stone, West Grove; secretary-treasurer, H. C. Young, Bloomfield.

The annual meeting of the Des Moines County Medical Society was held at Burlington, December 13, at Hotel Burlington. Over thirty physicians including guests were in attendance. The meeting was very interesting and profitable to the society as evidenced by the program furnished by physicians from different parts of the state.

Correlation of Clinical and Rœntgen Data in Disease of the Gastro-Intestinal Tract—J. A. Matlack, Galesburg, Illinois.

Treatment of Paralytic Contractures — Arthur Steindler, Iowa City.

Treatment of Cystocele and Procidentia—John F. Herrick, Ottumwa.

Cæsarian Section and Other Methods of Delivery in Complicated Labor—F. B. Dorsey, Keokuk.

A banquet was served at seven o'clock. The after-dinner address was given by ex-mayor Frank Norton, of Burlington. Officers elected for the coming year were: President, R. F. Karney; vice-president, E. I. Woodbury; secretary-treasurer, G. B. Crow, all of Burlington.

The Dubuque County Medical Society met in annual session at Hotel Julien, Dubuque December 13. Following a sumptuous luncheon, the following officers for the ensuing year were chosen: President, Joseph J. Rowan, first vice-president, H. G. Langworthy; second vice-president, F. S. Leonard; secretary, C. A. McGuire; treasurer, H. M. Pahlas; delegate, J. M. Walker; alternate, J. H. Schrup, all of Dubuque, excepting Dr. Leonard, of Cascade.

At the annual meeting of the Decatur County Medical Society held December 20, the following officers were elected: President, Claire H. Mitchell, Leon; vice-president, Bertha A. Greer, Lamoni; secretary-treasurer, B. L. Eiker, Leon; delegate, F. A. Bowman, Leon.

The Delaware County Medical Society met at Manchester, December 14. The officers re-elected for the year are: President, L. J. Bowman, Masonville; vice-president, T. J. Burns, Manchester; secretary-treasurer, J. J. Lindsay, Manchester.

The annual meeting of the Greene County Medical Society was held at Jefferson December 28. There was an interesting program and a spirit of interest and good fellowship manifested. Quarterly meetings will be held during this year. Officers elected were: President, J. R. Black, Jefferson; vice-president, S. M. Kline, Scranton; secretary-treasurer, B. C. Hamilton, Jr., Jefferson.

The Jasper County Medical Society held their regular meeting at Colfax, December 6, with a good attendance. An address was delivered by the president, F. E. Boyd, of Colfax. M. R. Hammer, of Newton, read a paper on Birth Control; Diagnosis and Treatment of Diseases of the Stomach and X-ray Diagnosis was the subject of a paper by James Hill, of Newton; J. L. Taylor, of Monroe, spoke on the Alumni Clinic.

The annual meeting of the Jefferson County Medical Society was held at Fairfield, December 17, with Dr. and Mrs. A. S. Hague, host and hostess to the members of the society and their wives. Dr. J. S. Gaumer, of Fairfield, gave an exceedingly interesting account of his experiences with the National Guards at Brownsville. Dr. Hague, president of the society, also gave a talk. The officers elected for the ensuing year are: President, J. V. Bean; vice-president, E. G. Grove; secretary-treasurer, F. S. Bonnell, all of Fairfield; delegate, S. K. Davis, Libertyville.

The Harrison County Medical Society met in annual session at the Masonic Temple, Logan, December 7. Meeting called to order by president, Dr. H. N. Anderson, of Woodbine. The program was of unusual interest and the papers were freely discussed. Dr. C. S. Kennedy, of Logan read a paper on Pneumonia and its Complications. The subject of the paper by Dr. H. N. Anderson was: Arteriosclerosis, and Dr. A. H. Konigmacher contributed papers on Empyema, and Exophthalmic Goitre. Officers elected were: President C. S. Kennedy, Logan; vice-president, A. H. Konigmacher, Logan; secretary-treasurer, J. F. Slattery, Dunlap. The meeting closed with a dinner at the hotel with Dr. C. S. Kennedy as host.

The Hardin County Medical Society held their annual meeting at Eldora, December 19, with a large representation of the membership present. The society had as its guests on this occasion, Dr. Charles L. Mix, of Chicago and Dr. D. M. Berkmar, of Rochester. Dr. Mix read a paper on Infections of the Biliary Tract, and Dr. Berkmar presented a paper on Diabetes. Other papers read were: What can a Hospital do for a Country Town? by Dr. David O. King, of Eldora; Exophthalmic Goitre, with Report of Cases, by Dr. Bessie J. Garver, Iowa Falls. Officers elected for the ensuing year were as follows: President, E. C. Kauffman, Union; secretary, W. E. Marsh, Eldora; treasurer, J. W. Thornton, Ackley.

The Lee County Medical Society met in annual session at the Florence Hotel, Fort Madison, December 14. This progressive society had the following program: Diagnosis of Extra-Uterine Pregnancy, C. W. Wahrer, Fort Madison; Typhus Fever, M. L. Bishoff, Fort Madison, and a paper by Dr. H. A. Gray, Keokuk. The officers elected for the coming year were: President, H. A. Gray, Keokuk;

vice-president, R. S. Reimers, Fort Madison; secretary-treasurer, V. T. Doering, Fort Madison. A banquet was enjoyed at the Florence Hotel by the members and their guests, the druggists of the city.

The Lucas County Medical Society met in annual session December 15 at the office of Dr. T. P. Stanton, Chariton, and elected the following officers: President, R. C. Gutch, Chariton; vice-president, G. F. Niblock, Derby; secretary-treasurer, F. C. Scott, Chariton; delegate, C. L. Brittell. The full membership including four new members was present. At this meeting the society unanimously condemned the Workmen's Compensation Medical and Surgical Fee Bill as unfair, and urged its rejection by the state Society.

The Mahaska County Medical Society held its annual meeting at Oskaloosa, December 17 and elected the following officers for the ensuing year: President, E. D. McClean; vice-president, Jay G. Roberts; secretary-treasurer, E. B. Wilcox; delegate, E. D. McClean, all of Oskaloosa.

The Monona County Medical Society held its annual meeting at Castana, December 7. Officers elected for 1917 are: President, C. C. Herren, Soldier; vice-president, M. O. Stauch, Whiting; secretary-treasurer, F. S. Spearman, Whiting; delegate, E. C. Junger, Soldier; alternate, M. F. Minthorn, Castana.

The forty-fourth annual meeting of the Marion County Medical Society was held in the assembly room of the court house at Knoxville, Thursday, December 14.

Dr. L. E. Park, Tracy, read a paper on "Rational Diet," bringing before the society many interesting facts in connection with the digestion and assimilation of food.

Dr. Tom B. Throckmorton, Des Moines, presented the subject Paresis, its Etiology, Symptomatology and Pathology. The relationship of syphilis to paresis; the various symptoms presented during the course of the disease; and the pathologic changes, as found in the light of recent research, were especially emphasized by the essayist.

In the absence of the president, Dr. Carl Mulky, the presidential address on the Use of Artificial Pneumothorax, was read by the secretary, Dr. Corwin S. Cornell.

Officers elected for 1917 were as follows: President, E. R. Ames, Knoxville; vice-president, A. E. Reiter, Melcher; secretary-treasurer, C. S. Cornell, Knoxville; delegate, E. C. McClure, Bussey; alternate, J. J. Sybenga, Pella.

At the annual meeting of the Muscatine County Medical Society held December 29, at Hotel Muscatine, Dr. Henry Albert, of the State University was the invited guest and addressed the society.

The officers for the ensuing year are: President, F. L. Appel, Muscatine; vice-president, A. R. Leith, Wilton; secretary-treasurer, E. H. King, Muscatine. Bi-monthly meetings will be held during the year.

The annual meeting of the Mills County Medical Society was held at Glenwood, December 7. The program opened with a symposium on Diphtheria, led by Dr. Geo. M. Agan, of Glenwood. The discussion was general and helpful on account of the recent epidemic at Glenwood. Dr. J M. Donelan read a paper on Public Health and Legislation; Neurasthenia was the subject of the paper read by Dr. H. C. Yates, of Emerson, and Dr. Edgar Christy, of Hastings, presented some interesting cases. The following officers were chosen for the ensuing year: President, H. C. Yates, Emerson; vice-president, L. T. Sidwell, Glenwood; secretary-treasurer, J. C. McCue, Silver City; delegate, Roy Moon, Glenwood.

The Palo Alto County Medical Society met at Emmetsburg, December 6 with eleven members in attendance. J. W. Woodbridge, of Cylinder, read a paper and topics of general interest to the medical profession were discussed.

The annual meeting of the Polk County Medical Society was held December 19 with a 6:30 banquet at the Savery Hotel.

J. C. Rockafellow, of Des Moines, presented the only paper of the evening: The Destiny of a Graft. Numerous lantern slides from x-ray photographs of cases in which bone inlay work had been done were used to further elucidate the subject. The paper, with illustrations will appear in the Journal at a future date, and its value can be determined by the various readers for themselves; but it is needless to state that undoubtedly its reception by the profession will be as enthusiastic as was that given by the Polk County Medical Society at this meeting.

The officers elected for the year were: H. A. Minassian, president; W. E. Sanders, vice-president; T. F. Duhigg, secretary; E. B. Mountain, treasurer, both re-elected; delegates, W. S. Conkling and R. A. Weston. The wives of the members were the guests of the society. Music and dancing added to the pleasure of the meeting.

The annual meeting of the Taylor County Medical Society was held at the office of Dr. C. M. Paschal, of Bedford, December 14. A larger representation of the membership was present. The officers chosen for the coming year are: President, H. E. McCall, Clearfield; vice-president, O. V. Long, Gravity; secretary-treasurer, J. P. Scroggs, Lenox, delegate, H. E. McCall.

At the annual meeting of the Union County Medical Society held December 27, the following officers were elected for the year: Edward Schifferle, president; H. A. Childs, secretary-treasurer; F. E. Sampson, delegate, all of Creston.

At the meeting of the Webster County Medical Society held December 6 at Ft. Dodge, Dr. W. R. Bates read a paper on Diagnostic Points in Throat Inspection. Officers elected for 1917 are: A. A. Schultz, president; J. D. Lowrey, vice-president; G. B. Palmer, secretary-treasurer; delegate, Robert Evans, all of Ft. Dodge.

At the meeting of the Wapello County Medical Society December 5 there was a large attendance at the Commercial Club dining room to enjoy a supper together, before listening to the papers of the evening. Drs. Osborne of Des Moines, Clarke and James of Fairfield, and Russell of Keosauqua, were the out of town guests present. Prof. Chas. B. Rowan, of Iowa City, discussed Exophthalmic Goitre. He noted that the classical symptoms may not be present and yet the disease exist. There are primary and secondary varieties; other glands may be involved with the thyroid, i. e., hypophysis, thymus, ovaries. Fright, an important etiologic factor according to the older clinicians, still has its place. The greater incidence among women, effect of pregnancy and menstruation, confirm the interrelationship of the thyroid and the generative system. Acute and chronic infections (focal Rosenow) are important factors. While, as a rule, a chronic disease, there are cases which are so acute as to cause death in a few days and may be diagnosed as ptomaine poisoning. The cervical glands while somewhat enlarged in exophthalmic goitre, are small and soft, but nodular and hard in malignant degeneration. In young girls, incipient tuberculosis may easily be confused with exophthalmic goitre, either way. Though a surgical teacher, Dr. Rowan, stated that medical treatment should always be tried first, i .e., rest in bed, ice bag over heart and gland, proper diet and elimination and sedatives; propably quinine hydrobromide preferably.

Surgery is to be resorted to if results by rest are in a reasonable time not satisfactory or if repeated relapses occur. Do not operate in acute attack. Uses ligation first of one pole and then the other; amount of thyroid removed varies in different cases.

Those who discussed the paper favored the use of the x-ray which had been spoken of rather adversely by the essayist.

Dr. H. W. Vinson in his interesting paper called attention to the recent increasing interest in the acidosis theory as an etiologic factor in many conditions, e. g. uræmia, diabetic coma, cyclic vomiting of children, so-called "biliousness" eczema, urticaria, rickets; it brings about an impoverishment of the body in bases. Urged more thorough study of patients' before submitting them to surgery, testing of urine for acetone, etc., "forewarned is forearmed." Dr. Vinson demonstrated an apparatus for determining tension of carbon dioxid in alveolar air. Treatment suggested was saline laxatives, administration of several ounces of glucose to replace carbohydrates, use of bicarbonate of soda, etc.

The secretary's annual report showed a growing interest in the society, 51 per cent. of the resident Ottumwa physicians had attended each of the eighteen meetings held.

The officers elected for 1917 are: E. T. Edgerly, president; F. W. Newel, vice-president; J. F. Herrick, secretary-treasurer; delegate to State Society, B. D. LaForce; alternate, E. B. Howell, all of Ottumwa.

December 19 Dr. W. J. Herrick, in a very full and exhaustive paper on the Thyroid discussed its physiology, its important function in the organism according to recent research, the wonderful effects of increased or lessened activity the effects of various types of infection upon it, whether they usually cause suppuration or not. The older views of the functions of the gland were quite amusing in view of our present knowledge. The fact that calves have a functionating thyroid from birth and the human infant does not and that the mothers milk furnished the required thyroid product to the babe and cows milk does not value as an adjustment in artificial feeding.

Dr. E. T. Edgerly presented Hypothroidism, reciting the effects shown in experimental removal of the thyroid in animals, the same after operations on the gland in the human subject, i. e. post-operatuni struma priva, or after disease changes in the gland or myxodema. Then the cases of early loss if function of the thyroid, the cretins. Here acting before growth is complete, a very miserable result is obtained, in these weak-minded, weak-bodied unfortunates. The only treatment for any of these manifestations is the administration of thyroid by the mouth. E. T. E.

A very interesting meeting of the Winneshiek County Medical Society was held at Decorah December 12. A large representation of the membership was present and several guests including dentists and nurses added to the interest of the meeting. The program—a little out of the ordinary—was presented under three heads, namely: Our Work for the Patient, Our Work for the Community, and Our Technical Efficiency. The first subject was emphasized in papers read by A. C. Woodword, of Decorah, on Obstetric Anesthesia, Local Anesthesia by Dr. R. E. Farr, of Minneapolis, and Dr. A. E. Conrad, of Decorah, on Gall-Bladder Diseases The second subject, Our Work for the Community, was presented by Drs. Barfoot and Stabo, of Decorah. In presenting the subject Our Technical Efficiency, Dr. Hennessy spoke on Team Work Among the Doctors, while Dr. Fenton of Iowa City closed with Team Work with the Dentists.

The Des Moines Pathological Society held a stated meeting, Friday, December 29, having for their guest Dr. Peter Bassoe, of Chicago. A six-thirty dinner for the members and their guests was enjoyed at the Harris-Emery Tea Room, following which Dr. Bassoe spoke on the Swift-Ellis Treatment in Relation to Tabes Dorsalis and Paresis. The presentation of the subject was indeed timely and was an epitome of the Doctor's personal experience with this

method of treatment extending over a period of three years.

The speaker first considered the technic as first worked out by Swift and Ellis, which in brief is as follows: Forty-five minutes after giving a dose of salvarsan intravenously, a sufficient amount of blood is withdrawn to enable the operator to obtain 30 to 40 c.c. of serum. After preparing the serum, a sufficient amount of spinal fluid is withdrawn by lumbar puncture, and the salvarsanized serum injected into the lumbar sac.

In considering the virtues of this method over the intravenous method alone, Dr. Bassoe very frankly stated that his experience would lead him to believe that in those cases where the symptoms of paresis were discernible early, that this method was the one **par excellance.** Experiments with analine dyes had shown that the pia and arachnoid membranes were stained when the spinal fluid route was chosen as a means of administration, whereas, the use of the blood channels failed to show any evidence that these membranes were touched when the dyes were liberated into the blood stream. Since in all cases of paresis there is present, to a more or less degree, a meningoencephalitis, it is not unreasonable to presume that the good effects of the Swift-Ellis method are due, in a large part, or entirely, to the particular way in which the salvarsan is administered. On the other hand, critics have held that no one can demonstrate conclusively that the intravenous medication of the vascular system with salvarsan may not be a considerable factor in bringing about some of the good now attributed alone to the spinal medication.

Dr. Bassoe's experience was such as to lead him to believe that the use of the salvarsanized serum was of little, if any, use in tabes dorsalis. Its use in cases of early paresis seemed to be distinctly beneficial, increasing the length of remissions and materially retarding the progressiveness of the organic changes in the central nervous system.

The Iowa Union Medical Society held its winter session at Hotel Montrose, Cedar Rapids, December 12. At the morning session Dr. B. L. Sheldon, of Cedar Rapids, read a paper on Some Observations on Pituitrin and Dr. J. C. Kessler, of Iowa City, presented the subject, Dermititis Venanata and Dermititis Artifact. Following the noon luncheon, Dr. C. E. Ruth, of Des Moines, presented the subject, Fractures of the Femoral Neck and Trochanters, giving a demonstration of the apparatus with case, and further elucidating the subject with lantern slides. Dr. L. W. Littig, of Davenport, presented the subject Tuberculosis of the Kidney; and Dr. F. G. Murray, of Cedar Rapids, closed the program with a paper on Treatment of Angina.

THREE MINUTES WITH THE BUSINESS MANAGER

In the December issue of the Journal, attention was called to the fact that the **High Cost of Living** had at last reached the Journal office and made itself known by the increase in publication rates as manifested by the bids received from all the publishing concerns in Des Moines, whose plants were sufficiently equipped to carry out promptly, the specifications of the Journal. Attention was further called to the ways and means of meeting the increased cost of publishing the Journal, for after the Trustees had carefully considered all bids it will be recalled that they found that the approximate increase over last year's contract was $600.00, or $50.00 an issue.

We are glad to note that already some response to our appeal for increased membership has been received from a few counties, and we sincerely trust that in the near future, more such favorable replies will be received. Already one county society, which had long ago "gone to seed" as far as any visible signs of activity could be discerned, has awakened from its lethargy, and not only has every old member retained his membership, but the vast majority of eligible men have been brought into the fold and are now united with us in this great and good work. Let the pattern set by this county be adopted by others, and see that the campaign for new members is not in vain.

We are also glad to note that, from the standpoint of advertising matters, the Journal starts this year with a brighter outlook. It is the hope of the Business Manager, that enough new advertising can be secured and retained as to materially aid in making up the increased cost of Journal production. It is needless to state, however, that unless the various firms who see fit to announce their goods through the Journal medium are shown that they have the hearty support of the medical profession of Iowa, we cannot hope to retain their patronage. It may be well to state that the policy pursued at this office in regard to soliciting and accepting advertising matter of whatever character, is the same policy as that of the advertising department of the Journal of the American Medical Association. If there is the least question at this office of the responsibility of any firm soliciting us for advertising space in the Journal, we immediately avail ourselves of the help of the Co-operative Medical Advertising Bureau of the A. M. A. and their opinion held as final.

With this care on our part to protect the readers of our Journal against questionable advertising material, we ask that your appreciation of the same be tendered and shown by patronizing such firms that see fit to use **your Journal** as an advertising medium. If our membership is to be increased, and our advertising policy continues to bear fruit, the same can only come about by the help and aid of every member of the Iowa profession—therefore, kind reader, take notice and govern yourself accordingly.

YULE-TIDE AT THE CHEROKEE STATE HOSPITAL

That the State of Iowa is not indifferent to her wards and employes is quite evident from the program of the Holiday Entertainments at the Cherokee State Hospital which was received at the secretary's office during the Christmas season. It was the writers privilege to have been connected with the Cherokee State Hospital for the Insane for a period of one year, and during that time, he recalls that the holiday season was looked forward too more than any other period by the patients. The entire week was set aside for feasting and amusement. Dr. Donahue, the present superintendent, is no less a host than was his predecessor. On Christmas day, religious services were held at 9:00 A. M., with a Christmas tree in the evening. A bountiful Christmas dinner, consisting of chicken, dumplings, gravy, mashed potatoes, creamed peas, cranberry sauce, sweet pickels, mince pie, fruit cake, candy, mixed nuts, oranges and bananas, was served to all. On the following afternoon and evening, a moving picture entertainment was held in the chapel. Home talent plays, dancing and other forms of entertainment filled in the remainder of the week. There can be no question but that great good comes as a result of such entertainment, and what has been done for the benefit of the unfortunate wards at Cherokee, has also been done at the various state institutions throughout Iowa. It is worthy of comment that Iowa, with all her perplexing problems, does not forget "Peace on earth, good will to men."

CHANGES OF LOCATION

Dr. M. F. Moore, of Martinsburg, has removed to Ottumwa.

Dr. W. W. Potter, of Mediapolis, has sold his property and practice to Dr. Eli Browning, of Iowa City.

Dr. Amos Sherbon, of Colfax, has located at Huxley.

Dr. L. S. Dietrich, of Chicago, has located in Marengo.

Dr. George Keller, of Huxley, has removed to Sioux City.

Dr. H. H. Clark, of Decorah, has removed to Burr Oak.

Dr. Deloss Huhlburt, of Paton, has removed to LeRoy.

MARRIAGES

Dr. John J. Lambert, of Iowa City, to Miss Mary Raymond, of Evanston, Ill., at Evanston, December 22.

Dr. Fred Puleston, of Monticello, to Miss Ruby B. Johnston, of Atlanta, Georgia, at Chicago, November 27.

BIRTHS

Dr. and Mrs. Warren L. Hummer, of Greenfield, December 25, a son.

Dr. and Mrs. M. W. Grubb, of Galva, December 17, a daughter.

DEATHS

Henry H. Amos, M.D., age sixty; King Eclectic Medical College, 1888; a practicing physician at Charles City for twenty-five years; died suddenly in a drug store at Charles City from heart disease, December 19.

Americus Camp, M.D., age forty-seven; a practictioner for many years at Kellerton; was instantly killed when the automobile in which he was being driven on a call, went off a bridge and down a fifteen foot embankment.

F. S. Kaynor, M.D., age ninety-five; Geneva Medical College. Dr. Kaynor had practiced his profession in New York, Wisconsin, Missouri and a short time at Cedar Falls, Iowa, but had not been in active practice for several years. He had participated in all the experiences of frontier life. Dr. Kaynor and Mrs. Kaynor were soon to have celebrated their seventy-first wedding aniversary. He died at his home in Ames, December 22, from a stroke of paralysis.

HOSPITAL NOTES

The new St. Joseph's Mercy Hospital at Centerville is nearing completion. This structure 46x110 feet, four stories, modern in every respect, when finished will represent an expenditure of $100,000.00.

The majority vote at the November election in Mahaska county was in favor of the county hospital proposition. Oskaloosa will soon have a county hospital which will measure up to any modern institution of its kind. The county hospital question was voted upon in other counties, but the issue was defeated.

MEDICAL NEWS

Dr. T. C. Cooper, of Ogden, has received an appointment as a surgeon in the British army and leaves soon for London.

Dr. H. J. Piper, of Randolph, is suffering from a fractured leg, the result of being knocked down by an auto.

Dr. W. G. Morton, of Iowa Falls, has returned from a year's post-graduate work in various hospitals and schools in Philadelphia and New York City and will specialize in obstetrics.

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RECENT APPEARANCE OF TYPHUS FEVER IN IOWA: A REPORT

Mark F. Boyd, M.S., M.D., C.P.H., Iowa City
Epidemiologist, the State University of Iowa

The recent appearance of typhus fever in Fort Madison, Iowa, is of more than passing interest. So far as known, this is the first occurrence of the disease within our state and consequently the disease is one with which most Iowa practitioners are personally unfamiliar. These circumstances prompt the report of the epidemiological features of the recent outbreak, together with a brief review of our present knowledge of the etiology of the disease. I will not undertake a clinical description of these cases or of the disease, since modern text-books on medicine present these excellently.

Typhus fever has a worldwide distribution, but on the American continent it has never been very widespread. Localized epidemics, introduced by immigrants, occurred in Canada during 1847. In New York City there were epidemics in 1867 and 1868, in 1881 and 1882, and in 1892 and 1893. In Philadelphia an epidemic occurred in 1883. The disease has been prevalent for a long time in the central plateau of Mexico and Mexico City, where it is known as tabardillo or tifo. During the last century Mexico City has suffered from terrific epidemics. In New York City, after the subsidence of the epidemic of 1867-68, occasional cases continued to be reported nearly every year, but no secondary cases occurred until 1881. Eight hundred and eleven cases with 225 deaths occurred in Manhattan and eleven cases with four deaths in Brooklyn. With the exception of a very few cases, the epidemic was confined to a small number of lodging and tenement houses. Until within recent years typhus fever was thought to be extinct in New York City and considerable interest was recently aroused in the demonstration by Anderson and Goldberger that typhus fever and Brill's disease (in New York City) were identical. Typhus had thus existed and escaped recognition as such in New York City for a considerable period, very nearly 300 cases coming to Brill's attention since 1898. Whether these cases were a heritage from the last epidemic of 1892 or whether they were due to constant and fresh importations of the virus from abroad, is unknown, though the former is probable. Anderson says that Brill's disease has been recognized in most of our large cities from Massachusetts to Virginia and from New York to Minnesota. Occasional cases are imported into the United States across the Mexican border and a few cases occur in the eastern states among recent immigrants. Importation from Mexico recently gave rise to a small epidemic among the New Mexican Indians, and Mexican laborers have introduced the disease into California, Arizona, Iowa and Illinois.

Typhus is most common in young adults (fifteen to thirty) and is generally considered to be rarely met with in individuals under fifteen years of age. Nicolle and Conseil state that infants, particularly nurslings, present a relative immunity to typhus and that in them the disease runs an abortive and mild course. They also point out that from an epidemiological standpoint, the disease in infants is as important as that of adults from the conservation of the virus and the creation of new centers of the disease. In older adults the number of cases is fewer, but the severity of the disease is greater. In general, the number of cases is about equally distributed between both sexes, though in some epidemics a preponderance of cases in either sex may be apparent, particularly in males.

A certain degree of acquired racial immunity is apparent in a population such as that of Mexico City, among whom the disease is endemic. Strangers appear to be more susceptible than the natives. Recovery from a single attack of typhus apparently confers a life long immunity, exceptions being very rare. Those whose occupation takes them in contact with the sick, such as physicians, nurses, priests, policemen and jailers manifest a very high incidence rate, while laundry employes who handle the linen and clothing of infected persons, are frequently attacked.

The prevalence of typhus was recognized by

Hirsch as being closely associated with human poverty, misery and wretchedness. Its prevalence is closely associated with conditions of over crowding, under circumstances where proper attention to personal hygiene is impossible. Under these conditions it is found in the densely crowded districts of cities, in wretched jails and prisons, in armies in the field, in ships and among human beings rendered desolate and destitute by the ravages of war or other catastrophes. In times of peace, jails and prisons may be important foci for the distribution of the disease, as Wilder has pointed out in Mexico City. The inmates are usually composed of the lowest and most miserable of the population, with no conception of personal cleanliness, abhorrent of baths and clothed in soiled and vermin infested rags. Under these conditions, body vermin multiply and readily pass from person to person. Typhus is constantly present in Belem, the jail of Mexico City. Upon discharge the inmates return to their homes in all parts of the city and thus distribute infected vermin broadcast. In this connection it is important to note the influence of vagabonds and hoboes in the widespread dissemination of typhus. Typhus was by successive steps brought to Paris in 1893 as a result of an epidemic in Carnoit, Brittany, in 1891 and 1892. It followed the routes taken by the vagabonds and in the cities along the routes, the resorts of the vagabonds were first attacked. In Paris the epidemic was confined to vagrants and habitues of the lowest lodging houses.

In general, typhus is a disease of temperate and cold climates, in which it is principally a disease of the winter and spring months, declining to a minimum during summer. Within the tropics the disease is confined to elevated regions such as the hill country in India and the central plateau of Mexico. This seasonal incidence is usually considered to be associated with the over crowding of wretched persons that takes place in the winter months, though lice appear to find cooler temperatures more favorable.

Typhus was formerly regarded as an exceedingly contagious disease, transmitted by the agencies of direct contact, though the trend of opinion finally inclined to a belief in the non-contagiousness of the disease in clean surroundings. Under conditions of squalor and over crowding, the disease would spread like wildfire, while in the families of the well-to-do, secondary cases were extremely rare, even though exposure to infection was very intimate. The constant association of body vermin with the classes of people among whom the disease is commonly present, led Nicolle, Comte and Conseil, and simultaneously Anderson and Goldberger, to suspect these insects as the vectors of the virus. In 1909 both groups of workers reported the successful transmission of the disease by the body louse (*Pediculus vestimenti*), a discovery which elucidates the whole epidemiological picture presented by the disease. The disease has now been experimentally transmitted from man to man, from man to monkey, and from monkey to monkey by the agency of the body louse. Rarely, it would seem, the head louse also serves as a vector.

The body or clothes louse (*Pediculus vestimenti*) is parasitic upon man during its entire life and keeps fairly close to its host. The same is true of the head louse (*Pediculus capitis*). Peacock has found some men to harbor from 400 to 800 adult lice and two shirts were found to contain 1355 and 4260 eggs. At moulting and egg laying time the insects try to hide, most frequently selecting the seam in the fork of the trousers. A survey of the degree of louse infestation among soldiers on the present western war front, gave the following results:

Extent of Louse Infestation on Western War Front

4.9	per cent.	free from lice	
41.9	"	harbored	1– 10 lice
19.6	"	"	10– 20 "
14.7	"	"	20– 30 "
11.2	"	"	30–130 "
4.9	"	"	130–350 "
2.8	"	"	350 and more lice

Their dissemination occurs from either the infested persons themselves, their clothing or their personal effects. Transfer may take place under the following circumstances: (1) Through accidental movements which dislodge the lice from the under clothing to the outer clothing, or the spontaneous movement of lice to the outer clothing, where they become dislodged upon other persons; (2) transfer effected by means of infested bed clothing, or the sleeping with an infested bed fellow; (3) prolonged contact between individuals in close quarters; (4) instinctive migration of lice from person to person. The oily clothing of mechanics seems to repulse lice. Their natural habitat away from their host is probably confined to beds and bedding, where the opportunities for a re-attachment are good.

The body louse is larger, stronger and more active than the head louse. Both insects are provided with a piercing proboscis and feed upon the blood of their host. Bacot has succeeded in crossing head and body lice and obtained several generations of fertile females. The hybrids more nearly resemble the head louse. Virgin female body lice commence egg laying within two to three days after their last moult and continue lay-

ing sterile eggs indefinitely or until fertilized. Under captivity Bacot has observed one male fertilize eighteen of twenty females. The females are more numerous than the males, as well as slightly larger. The female body louse can lay fertile eggs for about twenty days after fertilization, though sixteen days is the average. The maximum number of eggs deposited from one fertilization is 115. Egg laying commences within two to three days of fertilization, and continues as long as the food supply holds out and the temperature is warm. During her entire life a female may deposit as high as 295 eggs, an average of 6.4 per day. The fertilized female head louse lays fertile eggs for about eleven days following one fertilization. About seventy eggs are deposited during this time. During her entire life the female head louse may lay as high as 141 eggs at an average of four per day. A number of generations occur in the course of a year. Bacot estimates that during her lifetime one female may have as high as 4160 descendants.

Adult female body lice prefer woolen clothing for the attachment of eggs (nits) and avoid silk, though eggs may be attached to the hair of the head, the same as with head lice. In moist air at a temperature of 36.5° C., the eggs hatch in about five days. At 30-32° C. they hatch in from six to twelve days at 25° C. many do not hatch and at 18° C. none hatch. The larval lice pass through three moults, the first in from three to five days after hatching, the second in seven to nine days and the third in from ten to fourteen days. Twelve days is about the average duration of the larval stage. The larvae are more active than the adults. The larvae defecate on the skin during feeding, while the adults defecate after they have returned to the clothing. Without food the adults survive at 35° C. for three days. The male louse under favorable conditions will survive for thirty days (max. forty-six days) and the females for twenty-seven days (max. thirty-eight days). In captivity they must be kept at a temperature between 16-20° C. as they die after a few days exposure to temperatures approximately 35° C. This probably explains their greater frequency during the winter and spring months and their summer diminuation, as well as explaining why louse infested persons coming from the plateau around Mexico City to the hot lands around Vera Cruz, soon become spontaneously free from lice. Bacot finds that dry heat or submersion in water at 131° F. for thirty minutes, kills the lice and their eggs.

Individual susceptibility to louse infestation varies considerably. Hase classifies this as follows: (1) individuals not infested with lice but living under conditions favoring their transfer and multiplication; (2) individuals sensitive to louse bites and who retain this sensitiveness for a long time; (3) individuals harboring lice, but who have developed a tolerance to the bites; and (4) individuals in whom biting never provokes disagreeable sensations. Individuals of group three and four are particularly dangerous from the standpoint of louse dissemination.

Both sexes of the body lice are probably capable of transmitting typhus. Wilder considers hereditary transmission of the virus in lice possible, but Anderson and Goldberger were unable to confirm this. Sergeant, Foley and Vialette state that hereditary infection of lice occurs, and in this da Rocha Lima concurs, but says it is very rare. He only secured one successful result in thirteen experiments. It is not known whether young lice may continue to harbor the virus following a moult, though this would seem probable.

Nicolle presents several cases in which the bite of a single louse was sufficient to produce infection. Practically all cases will either be found to harbor lice or give a history of their recent presence. The intrinsic incubation period of the virus in man varies from five to twenty-one days, though eight to twelve days probably represents its average duration. The virus has been found in the blood stream throughout the febrile course of the disease and may be found as long as thirty-six hours after the crisis. It seems to be free in the plasma. Monkeys may be successfully infested by inoculation with from 1.—2. c. c. of blood from a typhus patient. Guinea pigs may be successfully infected by the administration of from 3.—5. c. c. of blood injected intraperitoneally.

The nature of the virus is unknown. In the blood serum it is not a filter passer and is rendered avirulent by heating at 55° C. for fifteen minutes, by freezing for eight days, and by drying for twenty-four hours. Plotz and his associates recently reported the isolation of a small anærobic bacillus from typhus patients, but the isolation of an apparently identical organism from widely different conditions by Sellards, questions the etiological relationship of Plotz's bacillus to typhus. While Plotz's work has been very thorough, yet it must await confirmation. The available epidemiological evidence indicates that the louse transmission of typhus is biological, a circumstance that indicates a protozoal virus rather than a bacterial. Da Rocha Lima recently reported the finding of a micro-organism in the alimentary tract of lice which have fed on typhus cases. This he calls *Rickettsia prowazeki*. They penetrate the epithelial cells of the louse's

digestive tract, multiply there and cause profound and characteristic changes in the cells invaded. The special features of the *Rickettsia* are its intracellular development in the louse; the regular experimental infection of lice with the *Rickettsia* when allowed to bite typhus patients, and exclusively under these conditions; and the parallelism between the *Rickettsia* infection of the lice and the infectiveness of the lice for guinea pigs. However, one does well to withhold judgment upon the nature of the virus of typhus in the present status of our knowledge.

From the experiments of Anderson and Goldberger, Ricketts and Wilder and Nicolle and Conseil, it is difficult to determine if an extrinsic incubation in the louse takes place, or whether the transfer of the virus takes place by mechanical means, through the agency of contaminated probosces, Anderson and Goldberger consider the extrinsic incubation period in the louse to be about four days. In this, Da Rocha Lima concurs. The virus appears to persist in a louse for at least seven days. Da Rocha Lima states that only one feed upon a typhus case is necessary for the infection of a louse. He states that lice are not infected from typhus convalescents and that therefore there are no healthy typhus carriers.

Ricketts and Wilder obtained naturally infected lice from typhus patients upon their admission to the hospital. As a result of monkey experiments, they concluded that at least seventeen lice would have to participate in a feeding experiment in order to insure the infection of a susceptible monkey.

While the louse transmission of typhus is well established both by laboratory experiments, the old observations and recent observations made with the louse etiology in mind during the recent epidemic in Serbia, in the prison camps in Germany and elsewhere, there are yet several points in connection with the disease and its transmission that remain to be elucidated and confirmed.

Dr. Sumner, secretary of the state board of health, was notified November 17, 1916, of the existence of typhus fever in the Sante Fe Hospital at Fort Madison and pursuant to instructions received from him, I proceeded to that place to investigate the situation and initiate measures for the control of the disease. Clinical examination of the cases left no doubt in my mind of the correctness of the diagnosis of typhus made by Dr. M. L. Bischoff in charge of the Sante Fe Hospital.

The essential history of these cases in chronological order is as follows:

Case 1—P. N. (original case), Mexican laborer. On October 30 presented himself voluntarily at the Santa Fe Hospital Ft. Madison for treatment, coming from New Boston, Iowa. He had been working in New Boston for five days, coming there directly from El Paso, Texas, where he had stayed for two months after leaving Guadalajara, Mexico. On admission to the hospital he complained of pain in the head and chest. He was examined and admitted by Dr. P. At that time his tongue was coated, pulse good, no fever. Fever developed shortly after admission. Pneumonia or tuberculosis was considered his probable ailment. About November 5 a diffuse macular eruption appeared over the trunk and extremities excepting the face. His eyes were congested. Upon the appearance of the rash Dr. Bischoff suspected typhus. Search was then made for body lice on the patient, which resulted in their detection. The patient and his clothing were there upon promptly given de-lousing treatment and he was isolated. The crisis occurred on November 14.

Case 2—Dr. P., assistant physician of Santa Fe Hospital. Examined Case 1 on admission October 30. Took sick November 8, incubation period ten days. Eruption appeared on the fourth day of illness. Diagnosis typhus fever—case typical.

Case 3—Miss I. H., nurse, Sante Fe Hospital. Took charge of clothing of Case 1 on admission to hospital. Onset November 9. Diagnosis typhus fever—case typical.

Case 4—R. H., male nurse, Sante Fe Hospital. Stripped Case 1 and gave him a bath on admission. Diagnosis typhus fever—case typical. Died on the morning of November 13.

Case 5—I. A., Mexican laborer. Had been a patient in the Sante Fe Hospital since October 1, receiving treatment for varicose ulcers on the leg. He was an ambulatory case. His room was situated across the hall from Case 1, and being of a social nature, he frequently visited with Case 1 before typhus fever in Case 1 had been diagnosed. His onset began November 8. Diagnosis of typhus fever—case typical.

Case 6—E. F., Mexican laborer. Admitted to the hospital from Princeville, Illinois on November 16. Diagnosis of typhus fever made upon admission. He had been a patient in this same hospital between October 28 and November 2, receiving treatment for gastric disturbances. During his previous admission he occupied the same room with Case 1. Three body lice found on his person, all dead.

Case 7—Y. A., Mexican laborer, from Surrey, Illinois. He came to Ft. Madison November 17, but because he lacked admission papers, was neither examined in, or admitted to the Sante Fe Hospital. Wandered about while ill and finally took refuge in a car body in the Burlington railroad yards occupied by Mexican laborers. On November 21 seen by Dr. Bischoff and myself and diagnosed typhus. Removed to bath car of disinfecting train November 22 after anti-louse treatment, taken to Shopton and re-

moved to Sante Fe Hospital November 23. Six Mexicans in the Burlington crew exposed; they were given anti-louse treatment and their quarters sprayed. The relation of this case to the other six cases of typhus fever would appear to exist through the following circumstance: P. F., a Mexican laborer, was under treatment at the Sante Fe Hospital, Ft. Madison, in the interval between October 30 and November 8, and after his discharge he went to Surrey, Ill., from whence this patient came. The subsequent history of F. is unknown, but serves to explain the connection between Cases 1 and 6 inclusive and Case 7.

Case 8—O. S., male nurse. Onset November 28. The cases from which eight received infection is uncertain. He was present in the room of six on November 16, while Dr. Bischoff was giving de-lousing treatment to six following his admission. The nature of the disease was recognized at this time and all the hospital staff were careful. It would therefore seem more probable that eight received infection from one at the approximate time the other secondary cases received infection and experienced an incubation period longer than usual. Recovered.

After confirmation of the diagnosis of typhus fever in these cases, which had been made by Dr. Bischoff, I undertook to get in touch with Sante Fe officials to see what could be done in the way of preventing the further spread of the disease from this focus. The work of Nicolle and Conseil, Anderson and Goldberger and Ricketts and Wilder had demonstrated that typhus fever is solely transmitted by the bites of infected body lice and occasionally head lice. The question of control, therefore, resolves itself into a campaign for the destruction of lice, which are exceedingly common upon Mexicans of this class.

The problem confronting the road was a serious one. Mexicans, many of whom are constantly arriving from along the border and old Mexico, constitute the chief unskilled labor employed by the road along its entire system. Most of these are housed in bunk cars or bunk car bodies upon the railroad property. These are sometimes grossly over crowded and are entirely lacking in bathing facilities. The lack of opportunities for bathing is in no wise disconcerting to the Mexicans, most of whom appear to have seldom utilized their opportunities in this direction even in their native land. As a result of this neglect of personal cleanliness, many are infested with both head and body lice and thus afford a suitable soil for the propagation of typhus.

Two classes of persons are endangered by an importation of typhus into their midst, (1) those who themselves are infested with body lice, and (2) those whose daily or occasional activities bring them in contact with louse infested persons. Among the American population of Iowa, typhus would never spread very far under the present standards of living, as louse infestation is very rare. But those whose duties bring them in contact with a more or less louse infested group of persons, are exposed to some degree of danger in the presence of the disease. In this connection, physicians, nurses, policemen and jailers are especially endangered. This was the situation in Fort Madison, Iowa, and at other points on the Sante Fe where unrecognized contacts existed. In Ft. Madison, the Mexican colony numbered about 200 and small section crews were also stationed at New Boston and Argyle, Iowa.

The contemplated campaign of louse extermination among this Mexican population considered three things, (1) the de-lousing of the persons in the Mexicans themselves; (2) the de-lousing of their clothing, bedding and other intimate personal effects, and (3) the de-lousing of their bunks in the cars occupied by them. Since the necessity for this work existed at other points along the road than Iowa, the magnitude of the task was greatly increased. It appeared therefore that some portable equipment and system of operation must be devised which could be taken from place to place to accomplish this purpose. Time was pressing and the equipment must be such that it could be immediately constructed from materials on hand in the railroad shops and the supplies those that could be drawn from those on hand in the railroad store house and the help the regular railroad employes.

It was decided to accomplish the de-lousing of the Mexicans themselves by a ten minute bath in kerosene and soap suds, with a kerosene and vinegar bath for the hair. Clothing, bedding, etc., was de-loused by exposure to a temperature in excess of 160° F. for twenty minutes. The sleeping quarters in the bunk cars were de-loused by spraying with kerosene. Dry heat was considered preferable for the destruction of lice and eggs in the clothing, as it could then be immediately returned to the men, hence saving time. Fumigation of the bunk cars did not seem practical, owing to their loose construction and the length of time taken by such a process.

At my suggestion the Sante Fe undertook to prepare a train for the convenient de-lousing of the Mexicans along their line, its construction and equipment being according to my directions. This train consisted of four cars. The first was a freight car in which was constructed an oven heated by steam coils, in which clothing and bedding could be subjected to a dry heat in excess of 160° F. for the destruction of lice and nits. Storage space for supplies was provided in this car. Two heated bath cars, in which the Mexicans

could be bathed in kerosene and soap suds were next in the train and a way car was also provided for the disinfecting crew of five Mexicans. The train was ready for operation by the evening of November 22 and its first work was to pull over on the Burlington tracks at Fort Madison and de-louse the six Mexicans exposed to case seven. The details of construction and operation of the train will be reported elsewhere. The Sante Fe has found this equipment so satisfactory for this purpose that four trains have since been placed in operation to cover their lines in Illinois, Iowa, Missouri and Kansas.

On November 23 and 24 a total of 134 Mexicans, their clothing, bedding and living quarters were given de-lousing treatment A total of twenty-two bunk cars or car bodies were de-loused. I stayed in Fort Madison only long enough to see that a satisfactory and practical method had been instituted and that the crew engaged in this work knew their business. On the two succeeding days the remaining Mexicans were treated.

A brother of Case 4 living at Mt. Zion, Iowa, near Keosauqua, visited Case 4 on November 12, the day before his death. Case 4 was de-loused at the time, so that the brother cannot have been exposed to infection. Nevertheless, Dr. Craig, health officer of Keosauqua, was advised to keep this man under observation for a period of three weeks from November 12 and to give him and his clothing anti-louse treatment.

The control of the six Mexicans, Burlington railroad employes, who were exposed to case seven presented a difficult problem. The men were frightened and were exceedingly glad to receive assistance. The de-lousing treatment removed them, even if infected, as a source of danger to others. Keeping the men under any form of restraint, seemed likely, considering the character of the Mexicans, to result in their disappearance. It was considered that best results would follow if the six Mexicans were told of the disease they had been exposed to and informed that if any were taken sick the Burlington road would give them the best of care and treatment. The section foreman was permitted to work the men on the road.

At the date of my departure from Ft Madison, there were still several Mexicans living in Ft. Madison on Sante Fe property who had not been de-loused. Dr. Kaster informed me that these would be promptly attended to, as well as the small number of the Sante Fe's Mexican section hands living at New Boston and Argyle, Iowa. Dr. Kaster said that the Sante Fe would furnish the materials for the de-lousing of the few Mexicans living in Ft. Madison, if the city officials would perform the work. This was communicated to the health officer.

After de-lousing, each Mexican was given a certificate attesting the circumstance and the Ft. Madison police were requested to keep all Mexicans off the street who could not produce such a certificate. Dr. Kaster was requested to direct that Mexicans becoming ill in Illinois be treated there instead of being brought to the hospital at Ft. Madison. He issued such an order. He was also requested to direct that Mexicans leaving Ft. Madison and seeking employment elsewhere along the Sante Fe, be refused employment unless they possessed a de-lousing certificate. On the whole the Mexicans took to the de-lousing work very satisfactorily. Men, women and children were treated.

It is to be noted that Case 1 left El Paso sometime near October 20. According to the Public Health Reports twenty-two cases of typhus fever had occurred in El Paso between July 1 and October 28. Several cases of typhus fever have occurred elsewhere among Mexicans who left El Paso about the same time as Case 1. The following instances are found in the Public Health Reports:

1. Kerman, Fresno county California, Mexican laborer, out of El Paso, October 17, onset October 25.
2. Sherman, Los Angeles county, California, Mexican laborer, out of El Paso, October 17.
3. Bisbee, Arizona, Mexican laborer, through El Paso October 13, onset October 21.

The Sante Fe Railroad will in the future keep all newly engaged Mexican laborers in detention camps for a period of three weeks before distributing them over its lines.

Three laboratory aids are of assistance in the diagnosis of typhus. These are, (1) the negative Widal; (2) the leucocyte count, and (3) guinea pig inoculation. A case presenting but a slight eruption may be difficult to distinguish from typhoid in the first two weeks of illness. This may be accomplished by the Widal test which is negative; by determining the existence of a leucocytosis; and by negative results with cultural examination of the blood and feces. A Widal test was performed on blood from three of the Fort Madison cases with negative results in each instance. Typhus cases present a leucocytosis ranging from 10,000 to 25,000. A leucocyte count on one of the Ft. Madison cases indicated 14,500 white cells. Guinea pigs are susceptible to intraperitoneal inoculation with the blood of typhus patients. After an incubation period of from five to seven days, the little animals present a well

defined febrile reaction persisting for nearly two weeks. No changes are observable in the animals postmortem. Guinea pigs were inoculated intraperitoneally with 5 c.c. of the blood from three of the Ft. Madison cases. Two of the cases had reached the crisis at the time blood was removed, while the third was in the heighth of the disease. The pig inoculated with the blood of the latter, presented a well defined febrile reaction, developing after an incubation period of five days and lasting thirteen days.

Further spread of the disease from the Ft. Madison focus is not anticipated. The six Mexican section hands employed by the Burlington previously noted have passed the incubation period unscathed. There remains a possibility that some unknown contacts with Case 1 exist, but with these de-loused, no harm can result.

THE CONSERVATION OF VISION—AN ECONOMIC QUESTION

T. U. McManus, M.D., Waterloo

The committee of the American Medical Association on "The Conservation of Vision," has been fairly active. As a result of their efforts, about 200,000 people have been reached through lectures, and twenty or more articles have been written and printed in pamphlet form, for distribution at a nominal cost. The committee has a representative in nearly every state, and it is his duty to push an educational propaganda, looking toward the minimizing of abnormalities and diseases of eyes, ears, noses and throats.

Physical Defects and Mental Deficiency—Judging from the statistical reports of examinations carefully made in many cities, it is estimated that 25 per cent. of all children suffer from eye diseases or defects, to an extent sufficient to markedly impair their school progress; and about 60 per cent. of all school children suffer from eye, ear, nose or throat diseases or defects, to a sufficient extent to impair school progress. Careful analyses of conditions indicate that this 60 per cent. includes 90 per cent. of the children that fail to make grades. In New York City, 30 per cent. of the school children are two or more years behind their grades, and 90 per cent. of these delinquents have defective eyes, ears, noses or throats.

An equally important point for consideration is that a very large majority of these children make normal advancement when their defects are corrected. The most serious phase of the question is that these impaired children are deprived of their full quota of health and education; but the health and education of a child is too sentimental to receive much consideration in an age dominated by commercialism. Therefore the question is without interest until we can demonstrate that the defective child is a greater burden to society than would be the expense of relieving that child of disease and defect.

Deficiency a Needless Expense—The blind man's misfortune does not make a very strong appeal on the ground of his personal discomfort, but as soon as it is shown that the blind man is a burden to society, then we are all interested in the conservation of vision. Just so it is not alarming that the child with adenoids and diseased tonsils should himself be sickly or incompetent, but when it is shown that 30 per cent. of school children have to be carried two or more extra years at state expense in order to make their grades, and that 90 per cent. of these delinquents are deficient in eyes, ears, noses or throats, and become efficient under proper treatment—then the question is an economic one, and it is open for discussion without apology.

Education, the Hope of Reform—Reforms worth while come slowly and with much deliberation. The physician who gives his attention to eye, ear, nose and throat, and the school teacher who so constantly sees the menace of the abnormalities of these organs, are alike inclined to be impatient with the body politic that has less opportunity to observe the defects, and is therefore slow to adopt reforms. It is too much to expect that those beyond student age will be much influenced by present day education. But the present day school children will in a few years be the parents of the school children, so that our harvest may be realized in the next generation.

Protecting the New Born—The first danger met by the new born is ophthalmia neonatorum. This is the cause in from 30 per cent. to 40 per cent. of all cases of blindness. It would seem that the knowledge of prevention of this terrible disease had become so common that public sentiment would force the use of the Crede treatment, even though the medical attendant were neglectful in his duty. The time has come when medical and lay sentiment is so strong in its demand for protection against ophthalmia neonatorum, that the medical profession should brand as negligent and inefficient any accoucheur who fails to give prophylactic treatment. It is a satisfaction to know that many laymen are now well aware that the prophylactic treatment of the new born baby's eyes is never neglected by a compe-

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tent obstetrician. Such a censorship should go far toward whipping the medical laggard into line.

The next danger comes by reason of exposure to strong light. Those in position to pass judgment tell us that much injury is done by permitting the new born to look freely at the sun or strong artificial lights. It is only rational to believe that the tender ocular mechanism of the new born is very sensitive to new and extreme conditions.

Early Correction of "Cross-Eye"—Every oculist has been frequently disappointed in learning that a parent has been working under the delusion that nothing could be done for squint, until the age of accountability, or puberty, or some other mile stone in the child's career had been properly celebrated. This delusion too frequently marks the dividing line between vision and blindness. It has become too common a practice among general practitioners of medicine, to advise parents to pay no attention to "cross-eyes" until the child gets older. This council constitutes the lullaby that has made many a parent comfortable, only to learn in later years that they have sinned past the day of grace when vision might have been developed, and a useful eye saved. Who can estimate the number of eyes that might have been saved, if the focusing eye had been bandaged a few hours each day at the first suspicion of squint—or better still if the eyes had been straightened by operation, or refraction, or both?

Responsibility of the Public School—When the child enters school, a new era has begun, and others outside the family are partly responsible for his making. All are agreed that the state has a right to demand a certain prescribed course of education in order to develop the best citizenship. If the state has a right to demand that the parent give the child's time in educational pursuit, then the parent has a right to expect that the state in turn will furnish such an environment as will make for the best manhood and womanhood. If this principle is not fundamental, then neither public nor parent is under any obligation, the one to the other, as far as education is concerned; but if this principle is fundamental, then the public school is under a moral obligation to give each child the maximum good in exchange for his expenditure of time. As pointed out previously, if the child's health is such as to disable him from making the maximum advancement, then the public funds are being wasted in his education. Economy is not an altruistic argument in favor of child health, but economy is a popular substitute for altruism in the expenditure of public funds.

As an example of the economic waste of blindness, it should be remembered that it costs eleven times as much, approximately, to educate a blind child as it does one of normal vision. Total blindness, however, presents but a small proportion of the economic waste to be prevented. The number of people incompetent and handicapped because of having less than normal vision, is inestimable.

Deficiency Breeds Depravity—Again, it should not be forgotten that children with defective eyes, ears, noses or throats, because of their mental deficiency, ofttimes become morally vicious, and constitute a large proportion of recruits to the criminal classes. It is acknowledged the world over, that a potent remedy for vice is education, but when education is a burden, because of defects or disease, the child loses interest and becomes discouraged, drifting along the lines of least resistance, often to end in the alms-house, the brothel, or the reformatory.

Who Shall Examine?—If school children are to be examined, to whom shall this work be assigned? Some cities have delegated this task to a school physician. At first thought it may seem as though this arrangement would be ideal, but it has not worked out effectively. The objections to the physician examiner can mostly be summed up in the statement that the broad-minded, competent physician will seldom accept the position. The doctor who does accept, is too liable to yield to the temptation to use his office for self-aggrandizement.

Some schools have employed visiting nurses and the sum total of results seems to have been more satisfactory than where physicians made the examinations. The chief objection is that many school districts are too small to afford a visiting nurse.

It seems to the writer that for the present the most satisfactory person to make the examination is the school teacher. At first flush it may be argued that the school teacher has no knowledge of pathology and has had no training in diagnosis; but it must not be forgotten that the object of the examination is not to diagnose nor to treat. It is a simple matter to determine whether the child has normal vision, and whether he does his far and near work with apparent comfort. The teacher can ascertain whether the child has headaches as well as can the physician, and the teacher can also determine better than the physician, whether the child is an habitual mouth breather, or is listless and easily provoked to anger or

tears. It does not take expert training to enable the teacher to observe tonsils, or lice, or the principal symptoms of itch, or chronic cough. A few hours spent each year by one or more competent physicians in each county teachers' institute of the state, would result in making teachers capable of selecting practically all defectives in their school rooms.

This examination should be made the first or second week of the school year and the findings in every case be filed in card index for future reference. It would be of special value and interest to occasionally compare the physical examination card with the child's scholarship records. It is confidently believed by the essayist that such a comparison at the end of the school year would furnish indisputable evidence of the desirability of making physical examination of all school children. This would be entirely without expense to the school districts for the reason that the removal of defects would result in so much more rapid advancement, that at the end of the first term, time would have been saved.

Examination Systematic and Records Complete—Whenever the teacher finds or suspects any physical abnormality, a report should be made to the parent with a request for its correction. These reports should be made on blanks furnished by the superintendent of schools. It would be of great educational advantage to the parents to have printed on the back of the card a brief statement of facts concerning the proportion of delinquents among defective children in one or more cities where such examinations have been made and results tabulated. A large proportion of the parents will disregard the first notice, but if the notice is repeated at frequent intervals, very few parents will disregard the warning when they find that the scholarship reports are below average.

Diagnosis and Treatment, A Physician's Job—The deficiency card should make it very plain that the child should be referred to an oculist and aurist, or the family pyhsician. It is always difficult and sometimes impossible for the man who has received thorough training in all branches of medicine, to locate the cause of the child's troubles. A headache may be caused by an auto-intoxication, and at the same time the child have an error of refraction. But it would be impossible for an optician or any other mechanic to properly weigh the evidence and determine whether the child needed calomel or eyeglasses, or both, or neither. The correction of ocular defects by the fitting of glasses has come well nigh into disrepute, because too many men are better versed in salesmanship than in diagnosis; and the man without knowledge of pathology and with no professional dignity to maintain, accepts every opportunity to sell his wares. It is not to be expected that any of us will always do the right thing, but there is a vast difference between the reputable oculist and the reputable optician. It is the business of the oculist to play fair with his patient because the patient has placed his trust in the physician. It is quite different with the optician, for the patient has already made his own diagnosis as having need of glasses, and has selected some particular optician or optometrist from whom to make the purchase. Under those conditions, the optician or optometrist should not be expected to turn down the sale any more than would the hardware merchant, if the same customer went into buy fish hooks. It has often seemed to me that there is a tendency toward an unjust criticism of opticians or optometrists, because they are aggressive salesmen. There are a lot of people who prefer to make their own diagnosis, and such persons can only be satisfied by buying their glasses of the salesman who will raise no question about their needs. An oculist should prescribe glasses for every patient who needs them; an optician should sell glasses to every customer who will pay for them. As a protection to unsuspecting childhood, professional dignity should be maintained.

With this distinction well in mind, the public school should be carefully safeguarded against commercialism from every source. The square professional man has nothing to fear from this policy.

Many Points Not Discussed—In the brief period allotted, it is impossible to discuss all the ways and means by which vision could be conserved. saying nothing of the diseases of the ears, nose and throat, which are so closely connected with diseases and defects of the eye. Eye injuries and infections, together with the influence upon the eyes of many general and constitutional diseases, all deserve careful consideration, but it has been the purpose of the essayist to emphasize only a few of the large jobs that are pressing for consideration.

"Conservation of Vision" Movement Should be Supported—Every individual owes service and sacrifice to humanity. The man who practices any phase of medicine for revenue only, must be very unhappy. It is the good we do for others that makes life worth living and there is no other way that the eye, ear, nose and throat specialist can pay his debt to humanity so effectively, as by entering heartily into co-operation with the Committee on Conservation of Vision of the American Medical Association.

Discussion

Dr. H. G. Langworthy, Dubuque—I can make a report although not very briefly I am afraid, of some activity at least along this line in addition to all our widespread local community efforts, which is right along the lines of Dr. McManus' paper and in fact his paper leads up to the proposition. The past two years the American Medical Association, through its Committee on Conservation of Vision, has been putting forth some effort to render a service to the people by bringing to their attention, throughout the United States, the need of a more general diffusion of knowledge concerning the preservation of sight and hearing. It is part of the duty of the chairman of this national committee to secure the assistance of a specialist in each state to assist in the work, such officer being known as the state chairman, who will agree to take charge of state affairs connected with the subject and reports to the national chairman at varying intervals and through him to the secretary of the Council of Health and Public Instruction, Dr. Frederick Green. One of the principal duties of the state manager has been to attempt to inaugurate a lecture campaign throughout each state upon all possible occasions, securing for same the services of reputable ophthalmologists or a regular physician where none exists, in each county, to go to nearby towns or be on call to lecture when they can do so. In December last, I was asked to represent Iowa and after considerable hesitation finally accepted the responsibility. Dr. Lewis and Dr. L. W. Dean have had charge of this work previously. Dr. Lewis was taken sick and really could not do justice to the work and Dr Dean's responsible college duties pressed upon him so severely that it was not practical or the best efficiency for him to do a great deal of individual work either and it had to be left largely to someone else. I too have found that the proposition is an uphill one and certainly there is little glory for any one in it but perhaps with a little more system and energy we might gradually make a success of something of this kind in the state. As a starter at any rate, I set to work to see what sentiment might be created anew by first outlining a state plan which I have here, covering possibly five years work and then sent letters to every county superintendent of schools in Iowa, (there being 99 counties in all), to a prominent ophthalmologist or reputable physician in each county, to officers and committees of the State Medical Society, State Board of Health, etc., but all with very indifferent success. I have been doing this solely until such time as would seem feasible to form either a permanent Iowa State Association for Conservation of Vision and Hearing under which one can help work to much better advantage or a more or less permanent large state central committee if there is any sentiment here for it at all. While I am distinctly opposed to starting new societies as we have more than enough almost as it is, it would not be necessary for such an organization to have active meetings at all but if it was in existence as a letter head if nothing else. it is bound to give great moral support to the movement and in time be something worth while. While I am willing to do the hard clerical work as secretary or as a state chairman of a committee if others will assist by becoming either officers or committeemen, I certainly do not care to act as I have been doing with full responsibility alone, both morally and financially as that is not working to the best advantage either for myself or the men who have so far kindly volunteered to take the responsibility in their own county. The question therefore might seem to be is whether we want a Society for this and are willing to become members at a very nominal membership fee of a dollar or so, enough merely to cover printing and postage, lend personal influence to the proposition by the use of our names either as officers or as mentioned, part of a large state committee with the idea that in the future most all work along this line be done under the auspices of our own society That some money will have to be raised goes without saying. For instance (if after discussion it is thought generally advisable and not that any one individual wants to be particularly instrumental in getting it up), a resolution—Resolved that the Eye and Ear Section endorse the formation of an Iowa State Association for Conservation of Vision and Hearing and some kind of a state plan of work—can be entertained to go on record in the matter which would permit those interested to perhaps work out something as they go along. It ought not be difficult to get one man at least out of each county who would agree to lecture on call, giving one lecture a year on this important subject at his county teachers institute meeting at the Normal Colleges, etc., if there be one in his immediate neighborhood. This is both good business for the doctor and certainly best for the public, and gradually if such arrangements are made throughout the state as a whole, in some sensible and tactful manner, it would not be found a hardship or burden on any single individual. So far thirteen specialists, eleven physicians in counties where there are no specialists, and twelve superintendents of county schools have agreed to do what they can in aiding the project. These I think are the important points in the brief time that one has to present them here.

Dr. Frederick E. Franchere, Sioux City—This topic is one of peculiar interest to me inasmuch as I attempted some years ago to have inspection of children in the schools adopted as a routine measure. To this end, after much persuasion and argument on my part, the Board of Education finally gave me permission to go through the schools in Sioux City and do some work along this line at my own expense. It is noteworthy that the chief opposition came from a practicing physician, who was a member of the school board. In the examination of over 2,000 children, about 80 per cent. were suffering from some physical disease or defect. It is a sad commentary upon our much boasted progress in the United States that in 1908, outside of Massachusetts there were only 70 cities and towns in the United States where

there was any form of medical inspection in the public schools carried on. France began supervising her children in 1833 while now Belgium, Germany, France, Austria, Norway, Sweden, Rumania, Russia, Switzerland, England, Chili, The Argentine Republic and Japan are all doing this work. The Japanese department of education has records of every child in the empire, giving the utmost detail to every part of the body and its functions. I believe that the present laws are a hindrance instead of a help in this work; and that if we could have a little more paternalism shown by one government along this line, it would be a good thing.

Dr. Lily Kinnier, Dubuque—In regard to the school work in our own state, I would like to say a few words: It seems to me that one class of children—the deficient class—should have more special attention given them than they are now receiving in our public schools In many of the cases the deficiency is due to impaired hearing or impaired eyesight, whereas mentally these children are just as capable of receiving instruction as are the efficient children of the class. It is manifestly unfair to group them with the feeble minded, (even though they are equally backward in school) for such a classification is apt to embitter and discourage them. We all know that school instruction is attended with far inferior results in children whose hearing and seeing faculties are impaired, than in normal ones, unless due regard is paid to their difficulties. Wisconsin today represents in its system of public day schools, the most progressive movement in the education of the deaf that has appeared in this country. This state now has thirty-three day schools scattered throughout the state in cities and villages, thus enabling many deaf children to obtain their education without being obliged to break home ties. The matter of organization of such a school is very simple in this state. When the board of education in a city or village finds that there are several deaf children in the community, such board has only to apply to the state superintendent for permission to organize a school for the benefit of these children. Upon receipt of such request the superintendent will issue a certificate of organization and the school may be opened. At the close of the school year, the board reports to the state superintendent the names of the pupils who have enrolled, together with the number of days each pupil has attended The superintendent then allows one hundred and fifty dollars for each pupil who has attended one hundred and eighty days, and for other pupils a proportionate part of this sum. In these schools even those who are congenitally deaf are trained to use their organs of speech. They are constantly associated with hearing people and play with the hearing children on the play-ground. This constant companionship together with the instruction in speech and lip reading tends to make the deaf child as nearly like the hearing child as possible. The nearness of the day schools for the deaf to the homes of the children, enables the parents to be in daily or almost daily communication with their children—causes the parents to take a deep interest in the school which the child attends, and helps the public to understand the needs of the unfortunate at their own door. Through the efforts of the "Wisconsin Aid Society for the Blind" in 1907, the legislature passed a bill for the establishment of day schools for the blind, to be organized and maintained in the same manner in which the schools for the deaf are organized and maintained. At the present time there are four of these schools in Milwaukee, and three in other cities. How many of you know of children who are deaf or semi-deaf; blind or semi-blind, to whom schools of this kind would be perfect boons? Many of these young people would have made useful citizens instead of burdens if the schools had been brought to them. Can we not lend our influence to the purpose of securing in our own state better educational advantages for children with impaired hearing and impaired eyesight?

Dr. G. F. Harkness, Davenport—I have been very much interested in Dr. T. U. McManus' paper, particularly as regards his routine of school inspection work. A number of years ago I did some work in the New York City schools with their inspectors. Later I attempted to organize a volunteer system here. It never even managed to get started. It failed before it even started. We are very proud of our present system which is handled by one man and who is recompensed for his time as he should be. Dr. McManus' ideas sound very well and with all due respect to his views I do not believe that they will work out practically in the average community. You must place the responsibility upon one man's shoulders, pay him for his work, clothe him with authority and back him by your school authorities. Do not expect your teachers with short course instructions, to become doctors. Teachers are over-worked now. Let them co-operate with one of sufficient training. Mr. Chairman I move you the privilege of the floor to Dr. P. H. Schroeder, director of the Child Welfare Department in the Davenport Public Schools. I am sure he can, if he has it at hand, give you interesting and practical data regarding our work here.

Dr. P. H. Schroeder, Davenport—As I am medical inspector of the local schools, it is natural that I should object to teachers making inspections. The plan can not work out, since only the most glaring defects would be recognized. One could go through any school room and be unable to find by casual inspection more than a half dozen children that might be called defective. Our experience has been that of 5,000 children examined, 65 per cent. have defects of a greater or less degree. Eyes, ears, noses, throats and teeth are the chief offenders. With reference to contagious diseases, the discovery of small-pox, diphtheria or scarlet fever peelers, and the exclusion of these menaces, is for the physician and not the teacher. With school inspection and co-operation on the part of parents, nothing but good can result.

Dr. F. W. Dean, Council Bluffs—The Iowa school for the deaf is located, as you know, at Council Bluffs. As it is an educational institution, it seems to me that it should be under the State Board of

Education instead of the State Board of Control. The deaf who are educated in the manual method (sign language) are compelled in after life to associate with those alone who have been taught that language. They are not only handicapped by the loss of hearing, but by having their opportunities for earning a livelihood curtailed. Those who would employ them are restrained by reason of the difficulty of intercommunication. On the other hand, those who are taught the speech method may have the world as their associates for they can read lips and can communicate by the voice. This being the case, we would expect that the Iowa school would teach the speech method, but according to the Volta Bureau in Washington, D. C., Iowa's school stands fifth from the bottom of all the state schools for the deaf in the United States in the matter of teaching the speech method. Furthermore, in the Iowa school there is absolutely no provision made for the care of the eyes and ears of the pupils by any one trained in these lines. I think we should use our influence with the members of the state legislature to the end that they may correct these grave faults.

Dr. J. V. Littig, Davenport—In Davenport we have a physician—Dr. Schroeder, in charge of medical inspection of schools. In order to do this, however, the city had to hire him as a special teacher of hygiene rather than as a physician in order to forestall what might be some slight legal technical objections. In many ways teachers have their hands full as it is and I do not believe that it is altogether the best thing to ask them to do any other kind of work, especially in which they are not well qualified.

Dr. J. E. Reeder, Sioux City—We have been having a very unpleasant and unsurmountable difficulty in Sioux City this past winter in the proper care and treatment of our indigent citizens. There has been an upheavel among our several organized charities. There is now a movement under way to get these bodies organized into one, and open a free dispensary for the proper care of the needy and worthy. I have tried to communicate with our county supervisor toward presenting some work before the county institute meeting on conservation of vision, but I have been met with an apathetic and indifferent attitude toward the subject. I believe the proper course to pursue is, we as a body to form some kind of a committee at large who can draw up a number of articles and present them before the proper representatives of our state to see that they are passed at our next legislature. It is distressing to think that Iowa as one of our most wealthy commonwealths of this United States is practically at the bottom of the list to compare with other states in acting and enforcing laws which should be a benefit to the health of our indigent people of the state.

Dr. Robert M. Lapsley, Keokuk—Conservation of vision is a very important subject, and many valuable suggestions are made in the essayist's paper. That conservation of vision is of great value to the state, can easily be shown by a careful study of the subject, and the statistics in this connection. The point I want to discuss is one often not considered, in connection with the manner of having school children looked after. It is well known by all the medical profession that they as a class, do an enormous amount of unpaid work, some from necessity, and some from feelings of charity, and altruism. All honorable physicians are willing to do a good deal in the latter class, but in a work like that of caring properly for school children, which is of benefit, not only to the individuals cared for, but to the public generally, it seems only fair that the public should partially share the expense. I do not think physicians should be expected to carry out all this work without pay, and I think we should bear that in mind, and not be too eager to be allowed to work for the state or community free, when the community as a whole is benefited. I think no other class of people are expected to do this, and while I am glad our profession is that much higher than others, we can go too far, and, no doubt, the work would be better done if partly paid for. There is much in the way of medical legislation in Iowa that could be improved, and we should take more interest in helping to get legislation beneficial to our profession in such ways as are honorable. The compensation law needs many improvements from our point of view, and while that has nothing to do with this paper, I refer to it in passing, as we want as many laws just to us, as we can have, and we surely are not overburdened with that kind now. When we may know whether candidates are going to work against our profession as unjustly as some of them do, let us not support them at the polls.

Dr. C. P. Frantz, Burlington—Considering all that has passed and in view of the fact that Dr. Langworthy who has given a good deal of thought to the subject of a more systematic "state plan" of education, county by county, has suggested that this section is the proper place to secure a real idea of opinion as to whether our specialists, who are busy men, would be willing to take part in forming either a new society or a large state central committee to take up the matter of Conservation of Vision and Hearing, I move you that a committee of five be appointed by the chair to convene immediately following this meeting and discuss ways and means of placing some plan of systematic education in Iowa into effect. (As there was no further discussion and no second to the motion, the motion was lost.)

Dr. T. U. McManus—I wish to thank the Society for the interest manifested in the paper. With all due respect for the members of the profession who have been able to accomplish so much in school examinations, I want to again assert my belief that in general, those outside the profession can do the work quite satisfactorily, and can have the co-operation of the medical profession to a much larger degree than can physician examiners. I am not unmindful of the splendid results of the physicians' efforts here in Davenport, but let me remind you that those of us living in small country towns have petty jealousies to deal with, and these are much less liable to creep in when school examinations are made by teachers or nurses.

OCCLUSION OF THE NASO-PHARYNX*

Fred W. Bailey, M.S., M.D., F.A.C.S., Cedar Rapids

In choosing this subject for a paper to present before this society, I had intended to discuss both bony and membranous occlusion of the naso-pharynx, but after looking into the subject somewhat in detail, I decided to limit my discussion to occlusion of the naso-pharynx caused by fibrous and membranous adhesions between the soft palate and the posterior wall of the naso-pharynx.

Membranous and fibrous occlusion of the naso-pharynx is not uncommon and varies from partial to complete closure. The latter condition, however is very rare. Wright and Smith give the causes in order of their frequency as follows: 1, syphilitic; 2, traumatic; 3, diphtheritic; 4, tuberculous; 5, congenital, and 6, inflammatory. They report sixty-nine cases, fifty-eight of which were due to syphilis. In cases due to syphilis there is abundant formation of scar tissue, and parts of the soft palate and uvual are usually gone. Traumatic adhesions are found following operations for adenoids, and following the use of galvanic or chemical cautery of the naso-pharyngeal walls.

Complete occlusion is rare. If there is any doubt of there being an opening into the throat, it can be determined by blowing air into the nose with a Politzer air bag and watching for the air bubbles in the throat. The appearance of air bubbles in the throat of course indicates some sort of communicating passage through the naso-pharynx and not a complete occlusion.

The results of occlusion of the naso-pharynx are: 1, mouth breathing; 2, impairment of the tone of the voice; 3, interference with drainage of nasal cavities and naso-pharynx; 4, loss of or impairment of hearing due to obstruction of the eustachian tube, and 5, loss of or impairment in the sense of smell.

The treatment of occlusion of the naso-pharynx is of course an endeavor to break down the adhesions and prevent their forming again. Smith and Delavan advocate monochlorœcetic acid applied to the cut surfaces to prevent their again adhering. Nichols uses silk sutures to prevent adhesions and Roe and Grant use silver wire with the same object in view. Roe also advocates transplantation of mucous membrane from the side of the pharynx to prevent adhesions.

Syphilitic adhesions are unsatisfactory to deal with as the parts are so devitalized by the masses of scar tissue that healing is very slow and uncertain. This class of cases are quite common in the various clinics but are rather uncommon in the better classes of private practice.

While fibrous and membranous occlusion of the naso-pharynx is mentioned in most of the leading text-books, I was surprised at the scarcity of literature upon the subject. A careful and systematic review of all medical literature on the subject, carried out in one of the best equipped libraries in the country and under the direction of a very competent librarian, revealed very few articles on the subject, and reports of only a few actual cases.

Reports of only three cases of congenitial occlusion of the naso-pharynx could be found. Hall reports two of them. He reports that two children, ages six and ten years, were sent to him for adenoid operations. These children had all the symptoms of adenoids. When examined under a general anesthetic, he found complete occlusion of the naso-pharynx caused by membranous adhesions between the soft palate and the posterior pharyngeal wall. These adhesions were easily separated by means of finger dissection. Hall stated that he looked the subject up in all the text-books and failed to find mention of another such case. Wassermann reports the other case. It occurs in a female patient about seventy years of age.

I now wish to report a case that came under my observation in October, 1914.

Miss M., age fifteen, was brought to me for examination of nose and throat. She was a mouth breather of the very worst type and had all other symptoms of adenoids, with marked narrowing of the arch which was very high. The mother stated that the girl had never breathed through her nose. Inspection by anterior rhinoscopy showed the nasal chambers very narrow and filled with muco-purulent secretion. Patient was unable to blow nose to cleanse it. She said on being questioned that she never had been able to blow her nose, but was compelled to wipe away secretions as they appeared at the nasal opening. Posterior rhinoscopy was attempted without success. Patient had diseased tonsils and an operation for diseased tonsils and adenoids was advised. I did not attempt to explore the naso-pharynx with my finger because a tonsillectomy was necessary; the exploration could be much more satisfactorily done while the patient was under an anesthetic.

Patient was removed to hospital and prepared for a tonsil-adenoid operation to be performed the following day.

After removing the tonsils I attempted to explore the naso-pharynx with my finger, preparatory to introducing the adenotome, but was very much surprised to find that I was unable to do so. Instead of my finger slipping up back of the soft palate into the naso-pharynx, it encountered a firm membrane.

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I had my anesthetist, Dr. Sherman, palpate this membrane as I at once knew I had run up against something quite unusual.

I next attempted to pass a curved blunt probe through into the nose into the naso-pharynx but was unable to do so. At every point the probe was stopped by the occluding membrane.

I then forcibly thrust the probe through the membrane and with this as a guide, separated the soft palate from the pharyngeal wall with my finger. Air was immediately emitted through the nose together with a considerable quantity of muco-purulent secretion. There was no excess of adenoid tissue in the naso-pharynx. The patient made an uneventful recovery.

I saw the patient last week. The naso-pharynx was small and very shallow in the anterior posterior diameter, the soft palate almost lying against the pharyngeal wall. Breathing was unobstructed, and there had been no reformation of fibrous adhesions.

From the history and nature of the case, I made the diagnosis of congenital occlusion of the naso-pharynx.

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Discussion

Dr. L. W. Dean, Iowa City—I was very much interested in this most excellent description of a very rare and interesting case. Following the removal of post-nasal obstruction where the palatal muscles have been involved, there should be some improvement in speech directly the result of the operation, but speech will not be normal. These patients in infancy become accustomed to using the palatal muscles in an abormal manner in order to attempt the production of certain sounds. If the muscles are made normal, the incorrect contraction persists unless there is a reeducation. Because of this, cleft palate patients should be operated before the infant talks. Professor Sylvester has at the University a speech defect clinic in which late operated cleft palate cases, and cases of other congenital palatal defects that are operated upon late in life, may be reeducated. Doctor Sylvester takes these patients and teaches them to speak as the infant is taught to speak; first the proper production of the vowels and consonants, etc., until a new and proper way of using the palatal muscles has been created. The results which he has been able to secure in cases of palatal defects operated upon late, are very remarkable. In some cases where certain muscles were defective, by proper exercise and massage, he has brought these muscles up to their normal strength.

Dr. Fred Bailey—In closing I wish to state that I consulted von Heymann's Handbauch, the book Dr. Dean has just mentioned. This text does not give any concrete cases, but merely generalizes. There is nothing more I wish to say except to thank those who have taken part in the discussion.

DRAINAGE FOR EMPYEMIC CONDITIONS OF THE CHEST*

When and How Should Same be Carried Out

FRANK EARL BELLINGER, M.D., Council Bluffs

Pyothorax is a condition of vast importance, for the various kinds of infection producing this condition are many. It is impossible to completely discuss the etiology, pathology, and treatment of each kind in a short paper. I simply wish to bring out the importance of when and how to drain the pleural cavity, or lung tissue. It is necessary to discuss as much of the etiology and pathology as will enable us to have an intelligent understanding of existing conditions, whereby we can outline various modes of procedure in its surgical treatment. Some of the primary important, etiological factors in empyemic processes of the chest are: pleurisy, pneumonia, gangrene, infarcts, bronchiectasis, infections of the glands in the mediastinum, direct germ infections, such as the streptococcus, pneumococcus, and more rarely, the tubercle bacillus. Secondary infections; subphrenic abscess, peritonitis, malignant growths of the stomach, and intestines, and infections of the liver. Also the metastatic type following infectious diseases; puerperal sepsis, erysipelas, diphtheria, glandular infections, tonsils, glands of the neck, exanthemata, Bright's disease, gun-shot and punctured wounds of the chest walls, and many other conditions enter into its etiology.

Pathological Anatomy—As we know, the serous membranes are more often affected than any other tissue of the body; therefore we often have empyema of the pleural cavity, which may be primary or secondary. In both the dry and exudative forms, the pleura becomes covered with membrane. When the affection has been present for some time, the effusion is liable to become purulent, hemorrhagic and putrid. If there are no adhesions of the pleura, the fluid will be found occupying the most dependent part of the pleural cavity. If absorption occurs, and there has been a great amount of inflammatory process going on, we are bound to have adhesions, which usually produce contraction and deformity of the lung.

Pleural infection from extension of pneumonic infection, is not always the easiest condition to diagnose. As we know, the duration of

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pneumonia is from nine to twenty-one days, according to the character of the infection, or amount of tissue involved. It ends in resolution, or suppuration. When suppuration takes place, forming a localized abscess, termination occurs by rupture into the bronchii, or into the pleural cavity. Rarely it may become encapsulated. Both the second and third condition call for surgical interference; extensive gangrenous conditions of the lung tissue, in which proper drainage through the bronchii is not secured. Tumors that have become necrosed and encapsulated, or ruptured into the pleural cavity; infections of the mediastinal glands, or growths within this space that have taken on a suppurative process, all call for drainage. All of the abdominal infections that become suppurative and extend through the diaphragm into the thoracic cavity, intra, or extra pleural, necessitate drainage. Infections of the throat, or neck, producing suppuration and infiltration into the thoracic cavity, and empyema of the pericardium, also necessitate drainage. After a careful study of various kinds of inflammatory processes within the thoracic cavity, ending in suppuration, we find the pleura involved in 90 per cent. of the cases, and it is this empyemic condition which most frequently demands surgical intervention.

Some of the most important symptoms and physical findings of these particular conditions are: fever, sometimes intermittent in character; chills; dyspnea; pain; dry cough, and if sufficiently advanced, cyanosis, due to insufficient oxygenation. If effusion has taken place, and the two layers of the pleura have become separated, pain and friction sounds cease, and physical exploration shows that a collection of fluid intervenes between the chest wall and lung. The physical signs of this stage are, first: noticeable enlargement of the affected side; that is, if any great amount of fluid is present; an increase in semi-circumference, with a fullness of the intercostal spaces; bilateral breathing; diminution of movement; absence of vocal fremitus and resonance; dullness, or flatness on percussion; absence of, or greatly diminished respiratory murmurs, and sometimes displacement of organs. On auscultation, we are liable to get any kind of sounds, dependent on the amount of fluid present, and influence of adhesions in producing displacement of lung tissue.

General symptoms are more marked in empyema than in simple serous effusion. Temperature is higher from onset; intermittent chills, more often and depressing; sweats occurring daily, with a fall of temperature following. The heart action is rapid, and the pulse feeble. The urinary findings are usually albumin and indican, also blood cells and casts. Blood usually shows a high leukocytosis of the polymorphonuclear type. If these cases have advanced far enough, with a large accumulation of fluid within the chest wall, we often have displacement to a great degree of the intrathoracic organs.

In contending with a great amount of effusion; say on the left side, the mediastinum and heart become displaced to the right. The apex beat may be found as low as the epigastrium. I have seen a case of left side involvement where the heart was crowded entirely to the right of the sternum, with the apex beat below the right nipple, and the spleen forced beneath the lower border of the ribs, while effusion of the right side may crowd the heart around to the left midaxillary line, also displacing the liver beneath the costal cartilage well into the abdominal cavity.

Even with these positive physical findings, it is sometimes impossible to make a differential diagnosis between an effusion of serum, empyema, bronchiectasis, delayed pneumonia, or growths in the pleural cavity. We must make our diagnosis from the early clinical symptoms, plus the physical findings which have been previously mentioned, for all who have done any surgical work for empyema of the pleura, surely have found from sad experience, both to themselves and to their patients, the result of allowing these cases to go on until there has been a great destruction of tissue. My experience in the treatment of infections of the pleura has taught me that early drainage is without question, the proper procedure, for, in all acute stages, if drainage can be established early, and great care used in breaking up all adhesions at the time of the operation, we are more liable to get re-expansion of the collapsed lung tissue (if such collapse has taken place), and this naturally obliterates the abscess cavity, and the patient, as a rule, goes on to complete recovery. Also, we often find cases that have effusion of serum, as well as pus present, and practically presenting none of the above symptoms. In these cases, it is necessary to do a paracentesis for a diagnosis.

A great many authorities do not believe in drainage of the non-mixed infective type, such as we get in tuberculosis, as this fluid often acts as a mechanical support to collapsed lung tissue, thereby lessening the circulation, and also shutting out the air. These two conditions inhibit the growth of the tubercular bacilli, but, even with these conditions, it is almost always an impossibility to make a differential diagnosis, as to the fluid being aseptic, because the patient is usually carrying a temperature from the pathologic

changes that are taking place in the lung and pleura. There are also many conditions produced by pressure of the fluid, such as cyanosis, difficult breathing, rapid pulse, engorgement of the veins of the chest, and extreme displacement of the various organs. If this fluid is not absorbed, it becomes necessary to do a paracentesis, and it usually takes this surgical procedure to make a positive diagnosis of the character of the fluid present.

In all classes of drainage of the chest, the most extreme precaution must be used to carry out aseptic surgical attack. If this is not followed out to the superlative degree, we are most likely to convert an aseptic condition into a septic one. Instead of our work being beneficial, it will become most detrimental. The manner in which a paracentesis, or thoracotomy, should be carried out, depends entirely upon the conditions that we have to contend with. I mean the character and position of the fluid present. If the case is one of effusion, without any infection, and we are doing a paracentesis for the relief of pressure, if there has been no mixed infection present, there are, as a rule, no adhesions produced, consequently no saculation, and the fluid well to the bottom of the pleural cavity.

The location for paracentesis is anywhere, anterior, or posterior to the midaxillary line, or subscapular, within the seventh, eighth, ninth, or tenth inter space. Where there is a great amount of effusion, and well into the lower pleural cavity, there is not the danger to contend with in doing a paracentesis that we have where the fluid is small in quantity and saculated, as far as puncturing the lung or diaphragm is concerned: while, in cases where there is a large accumulation of fluid, with great displacement, we should be careful not to draw off too large a quantity at once, nor too rapidly, as death sometimes ensues from such treatment by bringing about a thrombosis, or embolus of the pulmonary veins; cerebral anemia; hemorrhage into the pleural cavity from puncturing some of the arteries, or a collapse of the heart due to sudden relief of pressure. In cases where the effusion is aseptic, and the disturbance is due to pressure, removal by this procedure often brings good results. The dyspnea diminishes and the displaced organs regain their normal position, unless there are adhesions present, the pulse becomes stronger; thorax regains its normal contour, the kidneys resume their normal activity, and in most cases, the patient is cured.

After being satisfied that pus is present in the pleural cavity, or other tissues within the chest wall, free drainage must be established at once. How this should be carried out depends, first, upon the physical condition of the patient; second, on the location of the pus, and the amount of destruction to the tissues; and third, the character of the infection and pathology present.

There are two classes of drainage in handling this condition. Paracentesis and thoracotomy. As to paracentesis, this is limited in its application in pus cases, it being used for drainage of the serononinfective fluids, and for diagnostic purposes, except as a preliminary to thoracotomy, when the symptoms call for surgical relief, or in cases of acute phthisis, low vitality of patient, and also in early stages of the progress of the infection. Here, drainage with aspiration should be continued until the infective source is either removed, or its violence subsided. In pleurotomy, the same as in aspiration, the utmost asepsis must be carried out, so as to not add any other complications to the already infected field. In performing this operation for empyema of the pleural cavity, where there is not too much destruction of the tissues, with an extensive accumulation of fluid, it may be carried out with local anesthesia, using cocaine, or novocaine, injecting first subcutaneously, then deep into the intercostal spaces. This is often the best procedure, especially where there is active pulmonary pathology in progress, as a general anesthetic such as chloroform or ether, is not well borne, but often acts as an irritant and stimulates a semi-quiescent state into acute activity, which might cause death.

In cases where there is a considerable amount of fluid, and the condition calls for a resection of two or more ribs, general anesthesia must be administered, as we cannot get sufficient anesthesia with local injections.

The manner of performing pleurotomy for empyema of the pleura, depends on the location, the amount of fluid present, and its source. If the pus is free in the pleural cavity, extended well to the bottom, and to the posterior side, our point of attack should be posterior to the midaxillary line. In opening the chest wall, first make an elliptical incision, extending from the upper border of the eighth rib down over the ninth, and if necessary, to the upper border of the tenth, the base of the flap measuring from four to five inches then dissect the flap up to the base. This bares the muscular tissue. Second, make an incision through the periosteum covering the ribs, say two to three inches in length, separating the same from the ribs, using great care not to wound the intercostal artery and nerve, removing the piece of rib with Liston's or Leur's forcep. After completing this step, make an incision two

to three inches, or more if necessary, through the posterior surface into the pleural cavity, and if we find on examination of the cavity, there has been great destruction of tissues, with a good sized cavity, it is best to make a complete removal of one or two ribs with periosteum. If this is not done, we are liable to have a closure of the opening from contraction of the tissues.

If there is a great amount of fluid present, great care should be taken not to allow too rapid a removal, as this may produce serious results. We should follow this by washing out the cavity with warm saline solution, providing we are sure there is no communication with the lung tissue, or abdominal cavity; then explore our field well and see that all adhesions are broken up, so as not to leave any encysted pus. This procedure is one of the most important steps of this operation, as we must have free and complete drainage of the cavity well back to the base of healthy tissue if we expect to get results. Also, we must have the lower border of the opening extending to the bottom of the cavity; if not, there will be a constant residual accumulation of pus. In cases where we have opened too high, we must make a second opening through the intercostal spaces at the bottom of the cavity and insert a tube or gauze for drainage.

In cases where we have a cystic empyema, as in the upper posterior subscapular region, we are compelled to make high drainage, and the pleural cavity must be entered subscapular, or between the scapula and spine, carrying out our procedure in the same manner as in the lower field. The flap of skin obtained from the elliptical incision is of great importance, as it can be turned over the upper border of the intercostal muscle and sutured there, aiding to keep the opening patulous. This is sometimes difficult, unless the drainage tube is kept in constantly, and this is not always the best procedure, for with a large cavity, which necessitates prolonged drainage, the tube sometimes acts as an irritant, and it is often necessary to remove it.

By turning in the skin flap, the external opening remains the same, allows free drainage, and irrigation is accomplished without any trouble. When the cavity has become obliterated and drainage has ceased, it is time to close the opening. This is done as follows: inject a few drops of novocain solution into the flap, producing complete anesthesia, dissect the skin from the intercostal muscle and bring it down over the external surface and suture it in position, bringing about a closure of the opening.

In cases where the cavity is so large that it has been necessary to remove two or more ribs, we must use large drainage tubes, not less than three quarters to an inch in diameter. It is even better to use larger in some cases. This is most important. First, it keeps the external orifice well opened, and also lessens the liability of the drainage tube becoming plugged. If the cavity is one that necessitates irrigation, we are able to carry it out without any trouble. Some operators do not use irrigation, while others do. From my own experience in handling these infective cavities, I have been favorably impressed with the results from irrigation, using normal saline solution, or tincture of iodine, one-half of one per cent. solution, and irrigating daily.

I am positive that this removes the debris that collects on the thick pleura, and the solution stimulates granulation, consequently produces a more rapid filling. If the cavity has become fairly well cleared from pus, the daily injections of a sterile solution, one to three, balsam Peru et oleum recini, helps the healing process. If the condition is tubercular, a ten per cent. solution of iodoform in glycerine is applied, and the cavity packed with iodoform strips, using care not to get these too tight, as this is liable to hinder the growth of granulation cells, consequently delaying the filling in process. Aseptic principles must be carried out continuously in the dressings, as we are apt to reinfect the tissues otherwise. The external dressing of gauze should be well covered with gutta percha, and strapped tightly to the side to prevent the entrance of air, as much as possible, as this produces external pressure on the lung, consequently prevents re-expansion, which is liable to be disastrous as far as a final cure is concerned.

After we have thoroughly cleaned up the cavity, and the discharge has ceased, with healthy granulation process taking place, and we have positive evidence of the opening not closing, and the cavity is not too large, that is, if it does not hold more than ten to twelve ounces, we can fill it with Beck's paste, and bring about a closure. For filling cavities larger than ten to twelve ounces with bismuth, there is some danger of poisoning, and also difficulty in getting all the cavity filled, consequently having an accumulation of pus, and a secondary empyema, necessitating opening again.

In considering other suppurative conditions of the chest, such as abscess of the lung, or pericardium, the technique of thoracotomy is similar to that of pleurotomy, with the exception that we are not draining the pleural cavity, unless there has been an extension to this membrane. Therefore, in entering this cavity, we should endeavor to bring the visceral layer of the pleura to the

parietal, and suture it if possible, so as to prevent infection of the pleural cavity, then make our opening into the abscess cavity, draining the same through the external opening. A tube or gauze drain should be used, according to the size and location of the abscess. The abscess cavity should be kept packed to insure healing from the bottom

In all metastatic pleural affections, the original pathology must be met in the proper manner before a cure can be expected. After instituting drainage for empyema, we naturally ask how long should the same be continued? This depends on the etiology and pathology present, and the progress the patient is making towards a cure. There cannot be any well outlined time given in any case, as we have to consider the character of the etiology, and the amount of destruction to the tissues. If the diagnosis of pus has been made early, and not too much damage done to the tissues, the patient will make a rapid recovery; while in cases where there has been a great amount of destruction, it may take weeks of drainage before the cavity can be turned into an aseptic one. Drainage must be continued until complete obliteration of the cavity has taken place.

In pyemic cases, we have a debilitated condition of the patient, therefore, a stimulating and upbuilding treatment must be carried out. The administering of drugs, tissue building in effect, good wholesome food, and necessary exercise must be taken. The patient must practice deep breathing, so as to overcome the collapse, and increase the expansion of the lung tissue. This naturally fills up the cavity.

In no case of empyema, is a radical, primary operation indicated, that is, the removal of a great number of ribs and collapsing the chest wall, as all of these patients are suffering from sepsis, and their powers of resistance are such that they cannot stand severe shock. Therefore, we must allow Nature to do her part towards repairing of the tissues, as every air cell that can be reinflated, and every inch of re-expansion that can be obtained, is of vital importance to the patient. As long as the patient is gaining in strength and flesh, and we have succeeded in bringing about an aseptic condition of the cavity, with a continuation of granulation of the tissues, re-expansion of the lungs, and filling of the cavity, do not resort to radical treatment, but as soon as the process of repair stops, and we are positive from our surgical judgment, that nature cannot bring about a recovery, then is the time to come to her assistance by doing a radical operation, that is collapsing of the chest wall, with or without a pleurectomy, as the case may indicate.

The manner in which a radical operation should be carried out for collapsing the chest wall depends on the physical condition of the patient, the size of the cavity, and its location, as each case has certain individual conditions to contend with, and the surgical procedure must fit the case. There are several well known operations that can be followed, such as the Estlander, Schede, Wilms, Fowler-Delorme, Ransohoff's and others, all of which are fully explained in our text-books.

As far as the operative success in these radical cases is concerned, it depends principally on the mechanical judgment of the operator to fit himself to the needs of each individual case. Anyone can open a chest, but it takes surgical judgment and thorough technique to successfully close a chronic empyema cavity.

Discussion

Dr. Chas. B. Taylor, What Cheer—In the main, the paper is a most excellent one. Considering the small area in which I am compelled to live and practice, I have had more than my share of this type of cases, ranging in duration from a few days to eight weeks, during which time the condition was overlooked. And I want to say just a word or two in reference to the early diagnosis of these cases. There are border-line cases in which it is very difficult by the ordinary methods of percussion and auscultation, to know whether you have a continuation of the pneumonia, or an empyemic process, but we have one absolutely sure means of making a positive diagnosis, and that is by aspiration, and I insist that the ordinary method of aspirating is not sufficient. I learned by sad experience that it sometimes requires an aspirator with a considerable amount of suction to make the diagnosis. I believe that in absolutely every instance, if we take an aspirator that is right, select our dull areas and go in twice or three times if necessary, in case there is any walling off by adhesions, we will find the abscess, after which, of course, we can give the appropriate treatment. There is one thing about the Doctor's paper that I do not like, namely: he has talked a great deal about irrigation with various solutions, injection of paste and the like, into the chest cavity, but I believe we are getting away from irrigation of a pus cavity. Absorption is much slower in the chest than in the abdominal cavity, and I do not believe we should think of injecting these cavities at all. In my cases I have simply established good drainage, and worked incessantly to get re-expansion of the lung. Without doubt, re-expansion of the lung is the biggest factor in these cases, for when expansion takes place, you will have a cure, but you have to keep busy with your patient in the doing of the various things necessary to bring about re-expansion of the lung, and if you follow the directions as set out in text-books, you will get re-expansion and cure the patient without irrigation and without any fistulous tract being left.

Dr. E. C. Junger, Soldier—I enjoyed Dr. Bellinger's paper, and desire only to discuss the last clause regarding the chronic condition and how difficult it is to treat these cases and cure them. The thing we should do in this condition is the same as in cancer—not allow the cases to become chronic. When we have a case of pneumonia or la grippe or pleurisy that runs over two or three weeks, I think we had better puncture that pleural cavity, when probably we will find out why it does not clear up. In all cases drained I have found that simply one opening, or possibly two openings, will suffice. Put in a drainage tube and keep it in a sufficient length of time, when the lung will expand and the case will get along well, with no trouble at all. The only failure I have had was with a case in which I removed the drainage tube too early. I had only one opening, the drainage tube came out, the people objected to having it reinserted, and the boy finally died of a general sepsis. If we go in early enough and do not call the condition pneumonia after two or three weeks have elapsed, we will not then have the chronic condition. The operation is simple, the lungs will expand, and these cases will all do well and rapidly clear up.

Dr. S. A. Spilman, Ottumwa—We have all had our experiences along this line. I have not been quite so successful as Dr. Taylor. Some of my cases have continued after I had taken out considerable rib, but, of course, the condition had run on for many weeks before I saw the patient. I believe that in some of these cases an extensive operation is required before we get a cure.

Dr. J. Sedgwick Dean, Wheatland—I well remember many years ago when Dr. Donald MacLean gave his lecture on the treatment of abscess. It was a short lecture, as all his lectures were; it consisted of one sentence—"Drain from the lowest point or the bottom of the cavity." It was all there was about it then and it is all there is about it now. Since the time of Potain, so far as I can ascertain, except for modification in use of open drainage, no real advance has been made in treatment that has been accepted by the profession. Dr. J. D. Bryant advocates the use of a system of drainage by use of a soft rubber syringe and a collapsible drainage tube, the purpose being to seal the wound and produce a negative pressure within the pleural space. Various modifications of the Bunsen pump have been devised for the purpose also of producing a negative pressure. The production of negative pressure in these cases, especially old chronic cases, I believe to be pernicious and entirely unnecessary if the drainage opening be in the proper place and a correct device used to produce normal intratracheal positive, not intrathoracic negative pressure. Negative pressure can only produce an increase of congestion of an already diseased lung surface. We all learn through necessity. In 1907 I had a case who had streptococcic infection of the pleura for five months before she came under my care. We argue that drainage should not be rapid in these cases, but this case was operated in five minutes with the removal of 105 ounces of fluid. The danger is not in rapid removal, but in preventing inrush of air. The old method of dressing covered with oiled silk did not prevent the inrush of air and the condition of the skin would not permit of the sealing method and use of the Bunsen pump. It looked as though I would lose my patient, but on the second dressing I accidentally dropped a small piece of oiled silk over the drainage opening, of course acting as a valve in inspiration. On expiration and coughing it immediately flew off the wound. After two sleepless nights, I devised a way to attach an oiled silk valve to the end of the drainage tube. It worked beautifully, the lung expanded, and the wound closed without fistula in nine weeks. Expansion is produced with this device by intratracheal positive, not intrathoracic negative pressure, and is controlled by the patient's breathing, which is physiological. In case of cavities or effusions, we have drainage only half the time, that is, during exhalation and coughing. In the past year I have operated two cases belonging to the class which Dr. J. B. Murphy of Chicago says are non-operative because of the difficulty of closure and often resulting in fistulas; namely, primary tubercular cases.

Case I. Age thirty-six years. Amount evacuated, 80 ounces. Time of accumulation not known. Recovery in twelve weeks without fistula.

Case II. Age fifteen years. Time of accumulation about five months. Operation immediately after coming under my care. Amount removed, 100 ounces. Recovery delayed by rupture of lung due to weak lung tissue and clogging of the valve in the expanding device. Recovery complete at the end of seven months. No fistula. I find that the anatomies do not illustrate the relations of the lung and pleura, mediastinal contents and the diaphragm, to the chest wall, in a correct light for surgical purposes, although the text is adequate. I have spent many months in completing a set of drawings that I trust will illustrate the ideas I hope to convey in a paper within six months. These remarks are made as a preliminary announcement of proof of my contention that there is only one point that complies truly with the principle of drainage in the evacuation of pleural effusions. With this position, intelligent treatment, and the use of proper and efficient expanding device, these trying cases will recover without permanent fistulas even if they are primary tubercular cases. These remarks do not apply to secondary tubercular cases nor to carcinoma.

Dr. Bellinger—With reference to the injection of bismuth, I must admit that my experience in making injection of this material has been somewhat limited, but in those cases in which I have found it necessary, I have had no trouble in injecting it into small cavities. In cases having a large cavity, I have never tried it, on account of the anatomical construction of such cavities. As we all know, to inject a large cavity where there is complete collapse of the lung, with an old leather bottle as Dr. Murphy calls it, would be senseless. I am speaking of small cavities. As to

making early diagnosis of empyema, I confess that I have had some of them slip over on me, the process sometimes having gone on seven or eight weeks in cases that I thought were a prolonged pneumonic condition with pleuritic involvement or possibly with serum in the chest. It is an impossibility to make diagnosis between a known infected case and pus, where there are pathological conditions going on in the lung, and which you do have in prolonged cases of pulmonary congestion. The only way you can make a diagnosis is by aspirating. With regard to the statement that there is only one place of drainage in the chest wall, Dr. Dean has had much more experience than I have had, at least in years, but I must say that I do not know what he means by only one place to drain; whether that would be at the bottom next to the vertebra at the most dependent place, or where he means. My experience has been to make drainage where the pus is found, and then when you get in, make one or two openings, and if you find an ensaculated residue of pus, or serum, go to the bottom of the sac, down next to the diaphragm, if necessary and put in your drainage, using care not to puncture the diaphragm. I have seen men who have had more experience than I have ever had, make a mistake in diagnosis. Some cases you have to puncture and then re-puncture and you might go down in one place to the bottom of the pleural cavity and get no pus at all, if it is back of the scapula. It is necessary to go where the pus is, whether encysted or encapsulated.

RENAL INFECTIONS AND THEIR TREATMENT*

A. G. FLEISCHMAN, M.D., Des Moines

To consider the subject of renal infections in the brief space of time assigned, would be an utter impossibility. The topic concerned is replete with so many interesting phases and of such magnitude, that a great many aspects of its etiology, pathology, diagnosis and treatment will have to be omitted, and only its salient cardinal facts enumerated, but hope in the discussion that is to follow, to elaborate somewhat more in detail. For the reason that the various infections of the kidney present similar clinical pictures, differing only as to the stage of process, no attempt has been made to describe or classify any of the conditions individually.

Infection, as the term implies, signifies the presence of some form of bacteria invading some portion of the renal structure, the elements required for its production being some pus producing organism, and a diminished local resistance in one or both kidneys. The former is usually acquired from some focus of infection, while the latter is the result of trauma, previous inflammation of the kidneys, or a condition of stasis, the character of the pathology thus produced depends on the kind and virulence of the organism, the part of the kidney involved and nature of the predisposing factor.

Supposedly, infections of the kidney can occur in three different ways, first—as an extension from the lower urinary tract, second—through the blood stream, and third—through the lymphatic system. Those ascending from the lower urinary tract, traveling within the lumen of the ureter to the kidney, at one time was believed to be the only possible mode of invasion; today, little credence is given to this view, and experiences, both clinical and experimental, have proven that it is not easily produced in this manner. The second mode of inoculation is through the blood stream; undoubtedly the bacteria gain access into the blood from some primary focus of infection. If the organisms are both virulent and abundant and the kidney itself is impaired in some way, infection usually ensues. This supposition of hematogenous propagation of infection by many is held to be the most probable. The third route for germs to gain access to the kidney is through the lymph vessels, particularly through the lymphatic channels, along the course of the ureter. The work of Bauereisen, as well as the recent studies of Eisendrath, demonstrates that it is possible for infection to travel from the bladder to the kidney and perinephritic tissue by the way of the lymphatic channel in the wall of the ureter. In all probability, infections occur by all routes mentioned, but it is impossible to determine the exact mode of inoculation, either from the history or clinical study of the case.

A critical perusal of the literature shows beyond all doubt that the colon bacillus is the most common infecting organism, next in frequency the staphylococcus, streptococcus, gonococcus and typhoid. The prevalency of the colon bacillus is attributed mainly to the fact that this germ is a normal inhabitant of the intestinal tract. Since the kidney is intimately connected with this system by anastomosis of lymph vessels, it can be readily seen that any injury or disease of the bowel would allow their migration to the lymph vessels and on into the kidney.

The important significance of urine stasis, whether vesical or pelvic, as a predisposing factor in the production of kidney infections, can not be over-estimated. It is obvious that any obstruction, irrespective of its nature, which impedes the exit of urine, either in the upper or lower urinary tract, is capable of producing it. The result of such a stasis sums itself up in a few words; first —back pressure, with sooner or later dilated

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ureters, followed by pelvic distension; this in turn by its hydronephrotic pressure, causes a varying degree of atrophy and lowered resistance of the organ involved, making it a fit applicant for bacterial colonization.

In no branch of medicine have we advanced so rapidly toward the approach of accurate diagnosis with our present methods of examination of urine, together with a determination of kidney conditions by cystoscopy, ureteral catheterization and functional tests, we are now capable of making earlier diagnosis, as well as differentiating them from other conditions. In addition to this, we are able to discern whether the infection has involved one or both kidneys, extent of renal impairment and its degree. Two qualifications are essential and necessary for one to be able to diagnose kidney infections correctly, first—a thorough knowledge of cystoscopy, and second—a minute understanding of urine analysis. The first step in its diagnosis requires a detailed inquiry into the history of the case an accurate examination of the urine and a careful preliminary examination of the patient to ascertain the supposed origin of the infection. With this in view, let us now consider some of its important symptoms, physical findings and methods by which they are detected.

Pyuria is a constant finding in the majority of cases; it may be visible macroscopically or microscopically; when observed as such, every possible means should be resorted to, to demonstrate its source. An albuminuria signifies that the infection has involved the renal parenchyma.

Temperature—Think of the kidney as the seat of disturbance whenever you have present, persistent or recurrent fever, particularly if no other focus of infection can be determined; a fact to be borne in mind, that suppurative infections of the kidney may exist without any coincident marked febrile change at all.

Pain—In the region of the kidney is a fairly constant symptom in the majority of cases; however, in many acute cases it may be referred to any part of the abdomen, with no localization over the renal zone. Its intensity and character depends upon the severity of the infection and extent of lesion. In acute cases it is described as being sharp, while in chronic cases it assumes the form of a dull boring ache, seldom paroxysmal or transmitted, unless a calculus or lesion of the upper ureter exists.

Frequent and painful micturition is one of the first symptoms complained of, and also the most common symptom. It is usually due to the presence of a secondary cystitis. Its intensity varies with the degree of bladder inflammation.

Examination of the Patient—Inspection is negative, except where pyonephrosis, perinephritic abscess or hydronephrosis exists, here some bulging of the upper quadrant of the abdomen or lumbar region may be observed.

Palpatory Findings—Exquisite tenderness at the costo-vertebral angle, together with some enlargement of the kidney, is frequently present; the discovery of a tender tumor mass below the free border of the ribs is strongly suggestive of pyonephrosis, while the detection of fluctuation indicates a suppurative perinephritic involvement.

Cystoscopic Examination—This will show varying degrees of cystitis confined mostly to the region of the trigone and ureteral orifice, while ureteral catheterization will disclose the knowledge as to which kidney is diseased. A further chemical, microscopic and bacteriologic examination of a specimen of urine obtained from the diseased kidney, will demonstrate the presence of pus, albumin, casts, renal epithelium and nature of specific organism.

Functional Activity—As determined by quantitative phthalein estimation, will disclose diminution of function in pyelonephritis, pyelonephrosis and in infected hydronephrosis, but none in simple pyelitis.

Pyelography—It is of distinct service as a means of determining the size, position and changes that have occurred in the pelvis and calices of the kidney, thus informing us as to the severity and extent of inflammatory process; in addition to this, it enables us to diagnose the existence of some of the urologic factors to which the infection may be secondary.

As in diagnosis, advancement simultaneously has been made in its therapy. This progress can be largely attributed, first—to our better diagnosis, second—to an evolution of cystoscopy, and third—to the improvement made in the technical phase of surgery.

It is needless to say that the most important step in the cure of an infection is the removal of the cause, regardless of where it may exist, foci of infections, such as tonsils, teeth, furunculoses, and bone infections, conditions that predispose to urine stasis, such as renal calculi, strictures of the ureter, urethra, and prostatic hypertrophy must be completely eradicated before permanent cure can be expected.

The treatment of the infections themselves, resolves itself into both medical and surgical, the former consisting in the imbibing of pure soft water, the correct selection of a diet, the use of vaccines, the employment of internal urinary antiseptics, hydrotherapy and the local application of antiseptics into the renal pelvis through the

ureteral catheter, while the latter embraces the various operative procedures which have for their purpose either drainage or extirpation of the diseased organ.

A few words here as to the value of some of the agents employed in its medicinal treatment, would not be amiss. First—as to the pelvic renal lavage, we have been rather slow in recognizing this most important therapeutic agent The delay in its adoption can be blamed to its former difficulty of technic, but with the improvement in the mechanical construction of the newer cystocopes, this former difficulty has been obviated.

The application of medicaments locally to the renal pelvis by means of the ureteral catheter, has given us a greater number of bacteriologic cures than any other form of treatment, providing the cases have been carefully selected. The infections that are particularly amenable to this form of treatment are the cases of pyelitis, not dependent upon some organic lesion. Of all of the drugs used for this purpose, silver nitrate in strength of one-half to two per cent., is the most efficient, number of applications depending upon the severity of the infection.

The value of internal urinary antiseptics is a much mooted question; while some benefit can be derived from their use in some cases, their promiscuous ingestion is capable of producing added renal irritation. According to Himman, of all drugs that are employed for the purpose of inhibiting bacterial development in the kidney, hexamethylenamin is the most efficient, but because of the constant outflow of urine from the kidney, prevents the necessary concentration and time for accumulation of formaldehyd; its value as an antiseptic at the level of the kidney is infinitesimal.

Vaccines—Particularly autogenous, have produced varied results; in the hands of Gerahty, they have been of doubtful value, while the clinical experiences of Thomas, Wolfe and MacGowan, show that they are of decided benefit in a certain percentage of infections when properly employed.

Thomas, in a recent careful clinical review of two hundred and forty cases of non-surgical infections of the kidney, states that medical treatment affords a relief or cure in at least 60 per cent. of cases, and should always be carried out in some form; however, no single method will give results in every case, so that all methods should be tried, pelvic lavage proving the most satisfactory in the average number of cases.

Surgery becomes a logical treatment when the infection is persistent and does not abate under the proper medical regime of therapy. The following infections invariably necessitates the institution of surgery for its cure; pyelonephritis, infected hydronephrosis, and pyelonephrosis, when they are associated with organic disease of the kidney, such as stone, stricture, dilitations, etc.

In pyelonephritis, two different methods of surgical treatment can be applied, nephrotomy versus nephrectomy. In most cases, the former yields excellent results, but if the process has reached the extensive abscess stage and functions permanently low, nephrectomy is the operation of choice, a bilateral involvement always calls for a double nephrotomy with a nephrectomy later, on the side diseased most.

Pyonephrosis demands early extirpation of the destroyed kidney; if nephrectomy appears too hazardous because of disease of the other kidney, nephrotomy can be resorted to first, with a nephrectomy later, if the condition warrants it.

Infected hydronephrosis requires nephrectomy where extensive atrophy and permanent low function exist, otherwise the removal of its cause with some plastic operation, either on its pelvis or ureter, will bring about the desired result.

Perinephritic abscess always calls for the evacuation of its pus through lumbar incision, with the institution of drainage. If it is demonstrated at the operation that the abscess has its origin in the kidney, the kidney is exposed at a second operation and either nephrotomy or nephrectomy is carried out.

In conclusion, allow me to reiterate in a brief resume, the principal facts associated with the subject.

First—The mode of infection in the majority of cases are of hemic origin.

Second—At least three-fifths of renal infections are due to the colon bacillus.

Third—Infections elsewhere in the body, together with the conditions that bring about urine stasis, are the predisposing factors in renal infections.

Fourth—The cystoscope is our chief diagnostic weapon, and accurate deductions can not be arrived at unless resort is made to its use.

Fifth—Medical treatment affords relief and cure in the majority of non-surgical infections of the kidney.

Lastly—The group of infections that are associated with organic disease of the kidney require appropriate surgical treatment for their cure.

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ORIGIN OF THE PSYCHOPATHIC HOSPITAL

Gershom H. Hill, M.D., Des Moines

For many years the main idea which governed the erection, organization and management of hospitals for the insane seemed to have been to provide for the custodial care of patients.

Dr. W. B. Goldsmith, at the Danvers State Hospital, was one of the first to establish hospital wards for the careful special treatment of acute cases, as in a general hospital. Similar wards were also constructed in Buffalo, Kankakee, Kalamazoo, and Pontiac, Mich. Later they were used as reception wards for all patients admitted to the hospital.

Following this, largely through the result of studies in Germany and especially through the writings and addresses of Dr. Peterson, subsequently Commissioner of Lunacy in New York, the desirability of the erection of psychopathic hospitals arranged for the treatment of mental diseases similar to that of acute diseases in a general hospital began to bear fruit. Peterson's first application, in fact, recommended the utilization of wards or departments of general hospitals so that mental disease might be treated by the same staff and under the direction of competent men, skilled in internal medicine.

One of the first pavilions or wards established for the treatment of mental cases in a general hospital was established in connection with the new General Hospital at Albany, N. Y. It was known as Pavilion F and was situated in close proximity to the main hospital building, but in such a location that the excited patients might disturb the rest of the hospital as little as possible. This ward was placed under the special charge of Dr. J. Montgomery Mosher, a skilled and experienced alienist, who has borne the burden of it during the past fourteen years and by his skill, energy and thorough work has shown the feasibility and utility of a mental ward in connection with a general hospital.

The State Psychopathic Hospital of Massachusetts was next in order of establishment, under the auspices of the State Board of Lunacy, as a department of the Boston State Hospital. Although nominally connected with the latter in its business management, it is practically independent. Its professional work is in charge of Dr. E. E. Southard, formerly pathologist of the Massachusetts state institutions. It enjoys an active service and receives nearly all committed cases from Boston and its vicinity. The medical staff is large; and valuable studies and research work in psychiatry are being prosecuted with great skill and success.

About the same time hospital wards were erected in the McLean Hospital, Waverly; Butler Hospital, at Providence, and Bloomingdale Hospital, at White Plains. These hospitals were provided with quiet, secluded wards, special rooms, facilities for hydrotherapy and mechanotherapy and all the essentials of a general hospital for the treatment of acute diseases.

There was also in connection with the lunacy service in the State of New York an extension of the State Pathological Institute, then under the care of Dr. Adolf Meyer, through the cooperation of Dr. Mabon, the superintendent of the Manhattan State Hospital, whereby several wards were placed under the charge and medical care of men connected with the pathological institute.

Dr. White, at Washington, D. C., says: "The reception wards at the Government Hospital for the Insane are, I think, properly speaking, psychopathic wards."

In Maryland

The first psychopathic hospital in particular to be erected in this country was the Sheppard and Enoch Pratt Hospital, of Towson, near Baltimore, Md. It was opened in 1891; enlarged and perfected in 1900. Here sixty per cent. of the patients are voluntary, and clinical lectures are given to the senior classes of the Johns Hopkins Medical School, and of the College of Physicians and Surgeons, both in Baltimore.

When Mr. Henry Phipps, of New York, asked Dr. William H. Welch what he considered the greatest need of the Johns Hopkins Medical School, he answered, "A psychopathic clinic." Out of this came a most generous gift; funds for the construction and equipment of a modern type of hospital, with laboratories, and for the maintainence of an adequate staff, and of the hospital, for ten years. The building was opened to receive patients in 1913. It is the first university clinic in this country, free to receive its patients according to the judgment of the staff, and without any compulsion, or conditions or obligations imposed by any city or state authorities. The clinic comprehends an out-patient department; a public ward service, and provision for private patients; a department for hydrotherapy and a gymnasium; occupation and recreation departments and three laboratory units, one for the investigation of the problems of internal medicine, one for psychology and psychopathology, and one for the investigation in neuropathology in its functional and histological aspects. It is expected, that this institution will be the beneficiary

and administrator of a fund of $150,000 left to the Johns Hopkins Hospital for the scientific research of the cause, prevention and cure of epilepsy.

IN MICHIGAN

Michigan contains about 3,000 square miles more than the State of Iowa, and without reckoning the City of Detroit, has an equal population. It is provided with five state hospitals for the insane, and one private sanitarium for nervous and mental invalids, located at Flint. The hospital at Kalamazoo was organized in 1849. It is the largest one in the state, and during the biennial period ending June 30, 1916, admitted almost 1,400 patients. Twelve hundred and sixty-one patients were discharged, 70 *of whom were not insane;* 200 recovered; 273 were improved; 542 died. Out clinics for the examination of border-line and early cases were established by authorization of the board in March, 1916, in the more populous counties of this hospital district.

In the report of Dr. Herman Ostrander, just received, under the heading, "Mental Out Clinics," he states:

"The first clinic was held in Kalamazoo on March 21, 1916, and on each succeeding Wednesday until June 1. At the present time it is the intention to hold these clinics monthly. The first clinic in Grand Rapids was held May 8, 1916. At present I am in correspondence with the Probate Judge of Jackson County with fair prospect of opening a clinic in the City of Jackson, and an effort will be made to interest the other larger centers of population in this hospital district. The purposes of the clinics are, first, to get in touch with border-line cases and by treatment at home prevent admission to the state hospitals, or, should admission to the hospital seem desirable, to shorten the duration by early treatment. Second, to examine more closely the families of syphilitic patients already in the hospital in order to ascertain if any of them are infected and if so to direct a course of treatment for them or refer them to their family physician for prompt and thorough treatment. Third, to follow up discharged patients and by advice concerning hygienic, social, and medical matters, to prevent, if possible, their return to the institution. Fourth, to obtain better history of patients admitted to the hospital. Fifth, to come in closer contact with friends and relatives of patients and to remove by educational methods some of the ill-grounded suspicions of ill-treatment of the insane."

Concerning the State Psychopathic Hospital, he says:

"The hospital recognizes and appreciates the benefits derived from affiliation with the State Psychopathic Hospital. The only regret is that this affiliation is not closer, that the director, Dr. Barrett, of that hospital cannot visit us more frequently and that opportunity is not more frequently afforded members of our staff to attend classes under his direction."

Through the efforts of the late Dr. W. J. Herdman, of the University of Michigan, and with little or no co-operation on the part of other state hospitals, largely owing to the fact that the movement was initiated by persons who were not friendly to the state hospital system, the legislature of Michigan made an appropriation of $50,000 to establish a state psychopathic hospital in connection with the hospital of the University of Michigan. Under the admirable direction of Dr. Barrett, it has done excellent work in the care of recent cases and in the study and investigation of mental disease.

Dr. Barrett was educated in Iowa. He was an assistant physician and pathologist in the State Hospital at Independence for six years. After one year at Heidelberg, and three years in charge of the laboratory work in the State Hospital at Danvers, Mass., he took his present position as director of the State Psychopathic Hospital at Ann Arbor, Mich. We quote from the first report of the trustees, as follows:

"In September, 1905, a committee appointed 'as pathologist of the State Asylums for the Insane, and associate professor of neuralpathology in the psychopathic ward, Dr. Albert M. Barrett, who was then pathologist of the Danvers, Mass., Hospital for the Insane, and assistant in neuralpathology in the Harvard Medical School.' Dr. Barrett began his work on January 1, 1906. It became evident that the conditions under which patients were admitted would have to be changed if the ward was to receive a sufficient number of admissions. This led to the authorization of the preparation of a new set of provisions, by the pathologist, Dr. Barrett, which should provide in as ideal a manner as possible for the organization and administration of the psychopathic ward as a special state hospital for the care and treatment of the special class of mental conditions which were intended by those who first organized the new institution. The institution became the State Psychopathic Hospital at the University of Michigan, and has been operating under these new statutes with entire satisfaction. The capacity of the hospital is always taxed to care for those who desire admission.

"The Psychopathic Hospital is an institution for the treatment of mental conditions bordering on insanity; but with the special facil-

ities, which this institution has, many patients who are unquestionably insane apply for admission and treatment. It has been found impossible, nor has it been thought desirable, to refuse to treat these cases; many of these latter present most interesting possibilities of treatment and cure, and the opportunities for studying these conditions, which the hospital affords, will result in a better knowledge of the causes and nature of insanity. One of the chief purposes of the Psychopathic Hospital is to carry on "research in the phenomena and pathology of mental diseases." It is for these reasons desirable that the Psychopathic Hospital should have facilities for the care of cases of insanity as well as abnormal mental conditions which could not be classed as insane.

"It is impossible to do this work adequately without greater facilities for keeping the different classes of mental disturbances separate from one another, and to adapt treatment in a proper manner. The hospital now has but two wards for each sex. Into one or the other of these must come all patients who are admitted. One who is familiar with the arrangements or organization of a hospital for the insane cannot help being convinced of the difficulties under which this hospital labors. Under present conditions it is impossible to separate those who are suffering from psychopathic conditions, or those who are mentally disturbed but are not insane, from contact with those who are insane. This former class of patients often have fear that they may become insane, and come to the hospital seeking admission, treatment and relief for their troubled mental state. The difficulties of treating such patients, if they are to come in contact with even the best class of insane patients, who are in the hospital, must be apparent. Under the present arrangement of this building it is impossible to care for patients who show more than the mildest degrees of excitement, and it is often necessary to refuse such cases. Many of these cases could be most advantageously treated at the Psychopathic Hospital if facilities for keeping them apart from the quieter patients would permit their being admitted.

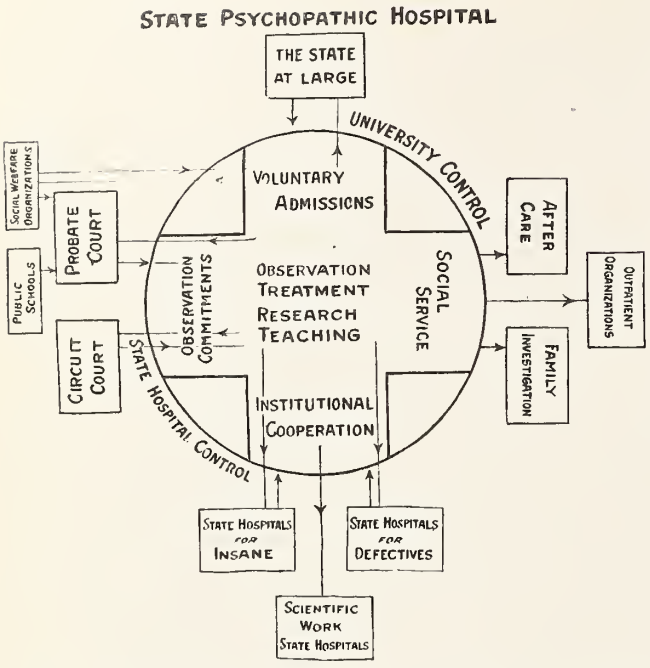
"The hospital is of altogether too small capacity to provide treatment for all who apply, even when they are suitable cases. It can never be the intention to make the Psychopathic Hospital an asylum, such as the present one in the state. Each has its own field of work. The Psychopathic Hospital must always remain a hospital in its organization, but it is essential for the adequate working of this institution, which so successfully fills a place in the provisions of the state for the care of its mentally afflicted citizens, and which already has become so warmly appreciated throughout the state, that it be provided with such additions as will allow of proper classification of the patients and accommodate all who may desire treatment therein. It is self evident that an institution of larger size can be conducted more economically than where an organization must be maintained with a small number of patients.

"The board of trustees of the Psychopathic Hospital urge that the capacity of the Psychopathic Hospital be increased to accommodate 100 patients and that a suitable building to meet these needs and proper classification be erected.

"This board desires to record their appreciation of the work of the medical officers of the hospitals, and hopes that this legislature will find it possible to provide the institution with the much needed facilities for the adequate grouping of their patients."

We are now informed by Dr. Barrett that in connection with the hospital is a well equipped laboratory in which investigations are continually carried on into the pathology of diseases of the nervous system, especially those in association with mental disturbances. The material studied in this laboratory comes from the Psychopathic Hospital and from the State Hospitals for the Insane. The laboratory is a central laboratory for all of the State Hospitals of Michigan. The expenses for its work are provided for in the annual appropriation from the legislature. Members of the medical staff of any of the state hospitals can come to the Psychopathic Hospital for periods of study. The practice in Michigan is to keep at the Psychopathic Hospital one physician from a State Hospital for a month's period of service. There are from time to time held at the Psychopathic Hospital meetings of the medical superintendents of the state. On these occasions, matters of mutual interest in the medical work of the State Hospitals are considered. The medical director of the State Psychopathic Hospital is pathologist for the State Hospitals for the Insane. He visits each of the state institutions occasionally and reports to them upon the studies made upon material sent from the respective hospitals to the Psychopathic Hospital laboratory. The State Psychopathic Hospital has a clinic of psychiatry for the medical school of the University of Michigan. Clinic given each week to students in the fourth year medical class. In addition, one morning each week, the students of the senior class in groups are given instructions in ward visits and at the bed-side in the hospital.

The Psychopathic Hospital only rarely re-



ceives a patient by transfer from one of the State Hospitals. The law provides that a State Hospital may transfer any patient who might be benefitted by the special facilities afforded by the Psychopathic Hospital. The hospital receives not more than a half dozen patients each year from the State Hospitals. These are usually patients presenting especially interesting clinical problems. As for the types of disease which come into the hospital for treatment they are of quite the same variety, although in different relative proportions to those entering the State Hospitals for the Insane.

About fifty per cent. of the admissions are voluntary. It is difficult to draw any distinction between psychopathic patients and patients who are insane. About twenty-two per cent. of the patients belong in the group of hysteria and psychopathic conditions. Of course, a considerable number of the other patients are cases of functional rather than organic disease. We include the manic depressive cases and the dementia præcox in the group of the functional disorders. The average patient remains under care for about two months. About forty-five per cent. are discharged in one month or less after their admission.

In Iowa

For years the board of control of the sixteen state institutions, and the superintendents of the State Hospitals, have felt that Iowa needs a Psychopathic Hospital. A few months ago the one at Ann Arbor was visited by President Jessup of the S. U. I., accompanied by William R. Boyd, of the Board of Education, and J. H. McConlogue, of the Board of Control. On invitation, Dr. Albert M. Barrett, the director of the Michigan Psychopathic Hospital, attended the Quarterly Conference of the Chief Executives of State Institutions with the Board of Control in December last, and read an excellent paper describing the uses and relations of a hospital of this kind, an abstract of which was printed in this Journal last month.

This cut was copied from a diagram made to illustrate this subject.

A State Psychopathic Hospital, in Iowa, should be located at Iowa City and conducted in conjunction with the University General Hospital, the College of Medicine, the Laboratories and the Medical Library there maintained. It would cooperate with the State Hospitals for the Insane and receive from the various state institutions, mental cases to be studied, treated for a short time, and their status determined. When suitable laws have been enacted, County Commissioners of Insanity (without recorded action) can refer doubtful cases to this special hospital, so too, municipal and district judges, could suspend sentence, when mental capacity or accountability is questioned, and order the defendant committed to the Psychopathic Hospital for investigation. This sort of an institution would prove of great service to the public schools, in their efforts to make suitable provision for pupils who are evidently subnormal or wayward or otherwise unfit for a graded school training.

By all means such a hospital should permit persons who feel the need of its advantages to voluntarily put themselves in its care. Especially should this be possible for mental and nervous invalids who are pecuniarily unable to pay for treatment.

The medical staff should be ample and reinforced with an abundance of well trained mental nurses so that they can participate in survey work and supervise the after-care of the men, women and children with whom they have become acquainted.

The director of the Psychopathic Hospital should be the neuro-pathologist not only of his own institution, but of the State Hospitals for Insane as well. Besides, the assistant physicians in the four State Hospitals should, in turn, have an opportunity to work in the university laboratory, and to have demonstrated to them the patients who are receiving treatment in the wards of the Psychopathic Hospital. Very naturally the director would, from time to time, visit each of the State Hospitals and other state institutions in which there are inmates with defective minds.

A bill will be introduced, asking the present General Assembly to make an appropriation for the construction of a hospital of this kind.

A REVIEW OF THE LITERATURE ON SLIDING HERNIA, AND A REPORT OF A CASE OF DOUBLE SLIDING HERNIA*

Thomas F. Thornton, M.D., Waterloo

When one essays to present the subject of sliding hernia, no matter how briefly, it is assumed that he possesses at least some special knowledge of the subject, which, in all probability, is the result of extensive observation or investigation. In this instance, however, such is not the case. With little true originality, I present for your consideration a review of the literature I have been able to obtain on the subject of sliding hernia, together with a report of a case of double sliding hernia from my own practice.

A hernia is the protrusion of a viscus through a normal or abnormal bodily opening.

We may then define a sliding hernia of the ascending and, descending colon, and bladder, as a hernia in which these organs have become displaced from their usual location and are a part or the whole of the sac contents, or a portion of the organ becomes an integral part of the sac wall itself.

Walton, A. J. (London, England), extrasacular hernia. Annals of Surgery, 1913, V. 57, 86-105.

Reports six cases. Thinks that most methods of treating do not prevent recurrence.

Bladder Extrasacular Hernia—The condition has been known for many centuries. In the more recent literature, Cloquet and Lockwood were among the first to describe it. In 1900, McAdam Eccles stated that this probably occurred in about one per cent. of inguinal hernias. It may occur with or without peritoneal covering, or where the bladder forms part of the wall of the sac. Eccles also pointed out that the bladder may pass into a femoral sac. Moynihan collected twenty-nine such cases, two males and twenty-seven females. Many cases have been since reported.

Hernia of Cecum—Cases were described as early as 1814 by Scarpa. Mitchell Banks was the first to describe it fully in 1887. Although some have stated that a sacless variety may occur, Treves has absolutely denied that any case can occur without some form of a sac. The developmental changes with which the condition is associated, have been investigated by Bryce, Carnett, Keith, Jonnesco and others. According to Jonnesco, the cecum may in about eight per cent. of cases, undergo changes similar to those of the ascending colon, so that it may be in part uncovered by peritoneum and acquire an extra serous position. Many varieties of cecal hernia may occur, and it may be inguinal or femoral. According to statistics of Hildebrand and Gibbon, given by Carnett, 164 were inguinal to twenty-one of femoral type. (See Carnett's abstract.)

Although cecal hernia is usually on the right side, yet Foerster collected fifty-four left side cases. In most of these the hernia was intrasacular. Ransohoff has put forward a new conception as to the cause of cecal hernia; that it is not due to sliding of the gut and posterior layer of peritoneum. He thinks that at first there is a complete sac; that the gut has become bound down by secondary adhesions. Upon the amount of these adhesions depends the size of the sac, and if excessive, the sac may even be obliterated.

Walton disagrees with the Ransohoff theory because it does not explain the presence of the bladder; it does not explain why the great majority of cases are in elderly adults; also a layer of sac should be made out behind the adherent cecum and this is usually not so.

Hernia of Iliac or Pelvic Colon—Usually as is natural, it is on the left side. Stoney showed that in cases of sliding hernia, the gut present was more commonly the iliac colon. The peritoneum, which normally only covers it in front, may be reflected to the anterior abdominal wall, so as to leave a part of the gut uncovered and in direct relation with the posterior wall of the inguinal canal.

Marshall, V. F. (Appleton, Wisconsin), Wisconsin Medical Jour.

Cecal hernia may be classified as: first, simple; second, extrasacular or sliding; and, third, sacless. These may originate from congenital or acquired causes.

In simple the cecum descends into the sac similar to any loop of small gut. Appendix alone may be present. In simple congenital form, it may originate from an excessive mobility of ascending colon or cecum; and in those cases in which the embryological condition of the mesentry has persisted; or where the ascending colon has acquired a mesentery.

In the extrasacular variety, the cecum or descending colon is either outside the sac in part, or the mesentery is firmly attached to a portion of the sac, so that a simple reduction is impossible. The congenital forms are due to (a) connections excessively developed, which draws the cecum into vaginal process, or (b) the plica vascularis in its development may drag down the testicle, etc., into it, or (c) adhesions may form between the posterior surface of the cecum and the peritoneum covering the testicle before its descent

*Read before the Austin Flint-Cedar Valley Medical Society, Iowa Falls, Iowa, July 11, 12, 1916.

and in the latter's descent the viscus will be dragged down.

Acquired Extrasacular—(a) Prolapse of viscera upon the posterior abdominal wall, bringing cecum close to inguinal or femoral opening giving rise to hernia. The sac while enlarging, drags down the peritoneum and with it the cecum, colon and appendix.

Types of extrasacular hernia—

1. With a definite mesentery to the lower part of ascending colon. (Either congenital or acquired.)

2. With no mesentery. In this type, the sac will be in front of colon and only its anterior surface will be covered by it.

3. In this type, the above condition will be accentuated so that the ascending colon descends to such a degree that a U-shaped loop is formed. This loop may be wholly extrasacular or cecum may be in the sac.

Sacless Hernia—Cecum escapes from peritoneal ring devoid of its serous covering and free from any structure resembling a sac. No defect in parietal peritoneum. Condition is very rare and diagnosis is only made at operation. Gut may be incised.

Remarks on diagnosis.

Not usually to be differentiated by appearance from ordinary hernia. Very difficult to reduce. If reducible, usually no "gurgle" (large sac neck). Strangulation very unusual (large sac neck). On operating, as a general rule, there is found a mass of fatty muscular tissue within the inguinal canal after splitting the external oblique muscle, which differs from the peritoneum of the ordinary hernial sac.

Symptoms—Indefinite. Usually only found at operation. Hernias are large, not easily reducible. Micturition may be in two stages (if part of bladder is herniated).

Marshall gives these cautions:

1. Incise peritoneum on its normal anterior surface.

2. Do not attempt to dissect sac from cecum.

3. Make flap sufficiently wide so that when folded back the gut is not restricted.

4. Do not injure vessels supplying gut.

(Marshall's etiology is based on perusal of existing literature and gives a fair resume of it.)

Carnett, J. B., inguinal hernia of the cecum. Annals of Surgery, 1909, V. 49-491.

Acquired hernia of cecum may be classified as simple or sliding. The latter is called by the French "Hernia *par glissement*," *i. e.*, sliding hernia, and may be subdivided into (a) intrasacular, (b) extra or parasacular, and (c) the sacless.

The relative frequency of the various forms of hernia of the cecum is indicated by combining the statistics of Hildebrand and Gibbon, who collected 139 and 63 cases respectively (four cases are duplicated). Of their 198 cases, 128 were right-sided inguinal, twenty-four left inguinal, twelve inguinal without specifying which side, eighteen right-side femoral, two left-side femoral, one femoral, side not specified, and eleven were umbilical. There was one case each of sacrosciatic and ventral cecal hernia.

Koch, in a collection of 135 cases of cecal hernia, found the cecum completely intrasacular in 108 cases, extrasacular in twenty-nine cases. Brunner found the large intestine in the hernia in six per cent. of hernia cases and Bennet reporting on 563 strangulated hernias, found the cecum present on one and fifty-nine one hundredths per cent.

Baumgertner, in 1905, collected 159 cases of sliding hernia. Of these, sixty-four contained the descending colon or sigmoid or both, and all were left inguinal except one. Of fourteen pure appendiceal hernias, four were right femoral and ten right inguinal. In eighty-one cases, the cecum, either alone or with some other intestinal part, was found as the contents of strangulated right femoral hernia in two, of left inquinal hernia in seventy five. Of the entire 159, only ten were females. Femoral cecal hernia is usually found in females.

Rockey, Paul, (Portland, Oregon). Sliding Hernia. Northwest Medical, 1914. Vol. vi, p. 294.

Cecum is generally covered with peritoneum. Hernia may either be inguinal or femoral. left or right, though it is usually on the right side.

The iliac portion of descending colon is the most likely part to be found in a sliding hernia. The bladder and ureter may be involved, ovary, stomach, liver, spleen and transverse colon, never a part.

The sliding hernia may consist of an afferent and an efferent loop; both may be extrasaccular or one may be free. The descending colon and sigmoid in sliding hernias could only occur on the left side; cecum and ascending colon only on the right side, bladder on either side.

A congenital cause is sometimes ascribed to sliding inguinal hernias by adhesions between the uncovered parts of ascending or descending colon and the testicle or its gubernaculum.

An enlarging simple hernia may drag adjacent peritoneum into the sac until the portion covering the partly uncovered piece of the intestine, is dragged in, thus giving rise to sliding hernia. If a piece of uncovered intestine lies over the inguinal ring and it is pushed through, this is another cause.

Rockey gives short case reports of five cases during 1914, operated by himself and father, all men, ages from twenty-six to fifty, all left inguinal hernias. Rockey thinks that in the operable cases, the prognosis as regards life, recurrences and unfortunate sequels, is poor.

Knox, R. W., Sliding Hernia of the Colon. Texas State Journal of Medicine, November, 1915, Vol. xi, p. 348.

Sliding Hernia is almost always inguinal. In Baumgartner's 159 collected cases, eighty-nine were right-sided inguinal, sixty-three left-sided, and seven femoral. It has no enveloping sac of peritoneum when it emerges through the ring.

As the ascending and descending colons are the only portion of the intestinal tract not covered by peritoneum, we are forced to the conclusion that a sliding hernia must arise in one of these two locations; and also that the cecum, appendix and sigmoid (which are completely inverted by peritoneum) when involved can only be so by general downward traction.

Possible Etiology. Theories—(a) Anomaly of location. (b) Increased weight of overloaded bowel.

There are no certain diagnostic signs. The deperitonized bowel, if presenting, may be mistaken for an ordinary hernial sac and opened by mistake.

The continuous union of sac and bowel may be mistaken for adhesions.

Binnie's Operative Surgery, Seventh Edition, p. 594.

Sliding Hernia—When large intestine is present in the hernia, that part of the parietal peritoneum to which it is attached, (with or without meson) may slide down and form a part of the sac. This must be remembered when a portion of large intestine *appears to be* adherent to the sac.

Bull and Coley have had relapses in one out of eight cases of sliding hernia operated on by them.

Fiaschi (Australasian Medical Gazette, November 20, 1907), has had considerable experience with sliding hernia, and considers relapse to be due to "the vicious habit of sliding down acquired by that portion of intestine which formed the sliding hernia." To counteract the above tendency, he supplements the ordinary operation on the hernia by anchoring the offending portion of the colon to the belly-wall (colopexy through a muscle-splitting (grid-iron) incision.

History of Case—February 2, 1916; R. P., male; age fifty-two. History by patient: Was knocked down by an automobile and was severely injured. The hernias made their first appearance immediately following the injury. He also stated that the day prior to the accident, he passed the physical examination required by a local railroad company, and pronounced fit for the service.

Examination revealed a double indirect inguinal hernia, complete reduction doubtful. Operation advised. Operated February 3, 1916, for the right side, Bassini incision. On opening the sac, found a sliding hernia of ascending colon, cecum and appendix. The anterior and lateral surfaces of the bowel were free, while the posterior portion was adherent. The operation performed on the right side was as follows, and is the one advised by Weir, Hotchkiss, Walton, Kirchner and others. The peritoneum was incised one inch from lateral cecal wall and parallel to its lumen. These incisions should run up to, or, preferably, beyond the internal ring, and by this procedure a flap of peritoneum is left on either side of the bowel. The bowel is then grasped and pulled upward as if to produce traction on its mesentery, and by careful dissection, made free from the underlying structure, care being taken not to injure the blood vessels. The lateral flaps are turned back so as to cover over the denuded area of bowel, and are sutured at their margin.

The bowel is now freely movable, and is returned to the abdominal cavity. The next step is the partial reconstruction of the sac so that it may be sutured or ligated, as in uncomplicated hernia operations. Wound closed in the usual way. Some treat the sac by the Kocher method.

The left side was not operated on at this time, but done two weeks later. The operation done here was a calopexy advised by Fiaschi, only differing in technique. I sutured the descending colon to the abdominal wall through the much dilated ring. Wound closed by Bassini's method.

Post operative history—Uneventful recovery on both sides, except the right side gave the patient more pain and had a troublesome orchitis for a time. To date, six months after the operations there has been no recurrence.

Summary

There are many contradictions in the literature on sliding hernia, but as in many other subjects in surgery, which is based on personal observation, we have a great many conclusions, some no doubt erroneous, but in all probability, drawn correctly from the cases reported by the different observers. For instance, Treves absolutely denies the existence of sacless hernias, while Marshall, Carnett and others report sacless varieties. Again, Foerster has collected fifty-four cases of left-sided cecal hernia, while Rockey says cecal hernia can occur only on the right side.

Walton and Rockey think most methods of treatment do not prevent recurrence. On the other hand, Bull and Coley have had relapses in one out of eight cases and DaCosta reports radical cures in three cases treated by the Weir method.

DaCosta states emphatically that suturing will not hold the hernia in place and Fiaschi believes that suturing is the best method of treatment.

I have had the privilege of doing one each way

and it will take time to determine which was the best method in each particular case. At the present time, I am of the opinion that each method has its virtues in selected cases. From my present observations and experience, I believe the Weir method is to be preferred in right-sided cases and the calopexy method in left-sided cases.

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MANDEL BROTHERS DEPARTMENT STORE HOSPITAL

Mandel Brothers were among the pioneers in the field of department store hospitals. They equipped a modern emergency hospital and installed a doctor and a nurse when many other stores had not emerged from elementary methods of first aid. The function of Mandel Brothers' hospital at its inception was the care of customers who became ill while shopping and of employes who met with accidents. However, as the great possibilities of employes' welfare work were unfolded, the employes' interests superseded those of the customers. The hospital now cares for everyone who becomes ill or is injured in the store, and offers free treatment to all employes who wish it. It contains a waiting room, an examining room, a dressing room, a men's "ward" with one bed and a women's ward with three beds. There are ample facilities for performing simple operations, and, should the occasion arise, the patient could be kept overnight. Perfect asepsis is maintained, and a generous supply of standard drugs is always at hand for free distribution.

Since the majority of department store employes are women and girls, a woman physician is in charge of the hospital. She is able to secure the confidence of the women employes and to give them valuable aid and personal advice. Often she is called on to act as an intermediary between the employe and the employer, and is able to straighten out matters of a delicate nature. On the average, seventy-five patients are treated per day. During the hot summer months just passed there often were as many as 125 cases in a day. It may be mentioned in passing that Mandel Brothers maintain an expert chiropodist, whose services are given to employes at a nominal cost.

The Mandel medical service is of much broader scope than is afforded by the facilities of the hospital. For example, a competent investigator visits the home of every boy or girl, young man or woman, who enters Mandel's employ. She reports on the neighborhood in which the applicant resides; the home affairs, when they can be learned; the number of dependents, if any; the income of other members of the family. If applicant is boarding, the character of the boarding-house is looked into.

When employes are ill, it is the duty of the house physician to visit them and report promptly as to their needs. When it is desirable that employes be sent to a sanatorium, the expenses of such employes as have been with the house for a year or more are frequently paid by Mandel Brothers. The house assumes full cost of sick benefits up to two weeks' full pay, or, in the case of urgent need, as much more as may be necessary to place the employe in physical condition to attend to his or her duties. In case of death, when funds are not available from any other source, the house pays the expenses of the funeral.

Incalculable benefit is rendered employes by apt suggestion, and instructions in hygiene and health. "What do you eat?" is one of the doctor's stock questions. In short, the Mandel hospital cares for the physical well-being of employes, and, in addition, throws about them every safeguard, moral and physical, that is possible without violating anyone's individual freedom.—(Modern Hospital.)

AMERICAN SURGEONS TO TOUR SOUTH AMERICA

At the meeting of the Clinical Congress of Surgeons of North America, held last week in Philadelphia, announcement was made that the United States Government had requested the congress to select a number of prominent American surgeons to make a tour of Central and South America for the purpose of bringing the surgeons of the United States into closer professional relation with the surgeons of Latin America. The more prominent surgeons of South America will be invited to join the American College of Surgeons. Dr. Charles H. Mayo, of Rochester, Minn.; Dr. Franklin H. Martin, of Chicago; Dr. Albert J. Ochsner, of Chicago; Dr. George W. Crile, of Cleveland; Dr. Edward Martin, of Philadelphia, and Dr. Frank F. Simpson, of Pittsburgh, were named by the Congress for the Latin American expedition.

The medical library of Dr. J. E. Maguire, of Dubuque, Iowa, has been presented by his widow to the medical college of the State University through Dr. J. R. Guthrie.

The Journal of the Iowa State Medical Society

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MEDICAL LEGISLATION

We again repeat what we have said many times before, that the medical profession of Iowa does not ask for any legislative enactments that will be of special benefit to us. The legislature of Iowa has been very fair with the profession, and has not inflicted any harsh measures that the profession has occasion to resent. We have a very satisfactory medical practice act, and the standards adopted by the Board of Medical Examiners are fully in accord with the best interpretation of the law. We have only to hope that the standards will be maintained.

Ever so often some new school of medicine is asking for special favors, which tend to lower the standards. This can only be for commercial and selfish purposes. The medical profession in common with the people of the state, are anxious to secure the passage of a vital statistics law which is of common interest. Standard bills have been worked out by experts which will undoubtedly give the best results. It is quite possible that a bill of less complexity may serve the purpose. Of one thing we are very certain, and that is, we do not want a vital statistics law unless it is efficient and reliable in its operation. Any other kind of vital statistics legislation would be worse than useless.

The people of Iowa need a psychopathic hospital, which should be located in connection with the State University. It is unfortunate that in times gone by, the state has failed to gather about the University, public institutions relating to the care of unfortunates, which could helpfully utilize the University laboratories and could serve in turn as an asset to medical education in the state. It is perhaps unfortunate that the hospital for epileptics and one of the insane hospitals could not have been located near the University, which would have been of mutual advantage to the state and to the University.

THE EVOLUTION OF THE HOSPITAL IN SMALL CITIES

The hospital idea is so closely associated with surgical operations that we are scarcely able to think of hospitals except in terms of surgery. This has led the New York Medical Journal to prepare an editorial showing that with efficient management, a hospital or as the English term it, a nursing home, in a small town may be a material "help to a country practice." In Iowa, private or quasi-private hospitals are springing up in villages of from 2,000 to 5,000 inhabitants in every direction and we presume there is a casting about for possible patients who are itching for an operation. It is unfortunate that hospitals and surgery are so closely associated in the public mind that ordinary sickness is left out of account. Nursing homes with very little attempt at surgical equipment beyond emergency and accident work, should be the central idea. General and special surgery means a large expenditure of money in suitable preparation for the work and a large outlay of money for equipment that such enterprises are liable to fail in small towns, and should not be undertaken. Sick people should be encouraged to seek the advantages of these hospitals or nursing homes. The hospital air should be eliminated and home-like conditions substituted. Everyone knows how completely the home is upset by the sick one, how the expenses accumulate and how the noise and confusion militate against the patient's speedy recovery. Furthermore it often happens that constant watchful care is needed to tide one over dangerous places which cannot well be provided for in country homes. Then there is the doctor's side of the question. Every physician knows that his mortality rate will be materially lowered if he can have his patient under close supervision, that he can apply important means of treatment that are impracticable in the home, and that he would find more time and opportunity to study his patient's case, and he could for his own and the patient's benefit, avail himself of some team work in particular cases.

In the editorial referred to, several instances are cited where this plan is carried out to the great advantage of both patient and doctor; a saving to one and a profit to the other. Most excellent opportunities are afforded in Iowa to install

this plan. We feel quite sure that the evolution going on in the practice of medicine will lead ultimately to the general adoption of this plan. We believe the proper presentation of this plan will be helpful in bringing about a community interest in public ownership of the small hospital and lead to provision being made to care for the poor sick at a very small cost and not lessen the self-respect of those who entertain a resentful feeling of being subjects of charity and who would be able to secure the best medical and nurse care and treatment.

THE RHODE ISLAND MEDICAL JOURNAL

The Rhode Island Medical Society has fallen in line with so many other state medical societies by establishing a journal owned by the society. Previous to January, 1917, the Rhode Island State Medical Society published its papers in the Providence Medical Journal, which was owned by the Providence Medical Association, and has been taken over by the Rhode Island Medical Society. It was felt that the Providence Medical Journal did not meet the needs of the profession of Rhode Island, hence the change. The journal is to be published monthly, and will be the official organ. Dr. Roland Hammond, 266 Benefit street, Providence, Rhode Island, has been appointed editor. It is organized on the plan adopted by the Journal of the Iowa State Medical Society. The first number contains twenty-eight double column pages of reading matter and twenty-four pages of advertising. This, the January number, promises well for the enterprise.

AGE VS. THE DOCTOR

The American Journal of Clinical Medicine not very long ago expressed a bit of sympathy for the aging doctor, and finally closed its article with some advice that might be well for the old man to consider. The Journal thinks that the stress of competition is harsher on the old fashioned doctor than the competition of other lines of work. The aging doctor must realize that he cannot look upon his practice as does the farmer on his acres, and that he holds his ownership secure. The doctor in his best days had the competition of his equals, and had a fair chance to hold his own, but it becomes different now. The old doctor is handicapped by the impression that is so much abroad, that he is not familiar with the recent methods of study and diagnosis of cases, and that his treatment must necessarily be of a time that is gone by, and his younger competitor is not slow in taking advantage of this, and it is rare for the young doctor to remember to remind the public that the years of accumulated experience are of a value difficult to measure. The old doctor finds that he may not go outside of his own state to practice medicine however urgent a change of climate may be, for he knows there are many things that have been recently introduced into a college curriculum, with which he is not familiar, or which has passed from his memory. Much of the difficulties that the old doctor finds and many of the difficulties that the younger doctor is sure to find some time in the future, is that he did not avail himself of abundant opportunities of keeping his mind fresh with the new things which are the common property of the old and young alike. The old doctor of today and the old doctor of the future years will each be precisely in the same situation providing he does not bear in mind the lesson which is so forcibly brought to the old doctor of today. It may be said that in every line of employment, it should be the duty to make provision for the future so that when a man becomes old, he will have something to fall back on, but it is an unfortunate fact that with the great majority of men, they must be producers to the end. The rewards in most instances are not sufficient to provide for a very long rainy day.

If the doctor with gray hairs, admits that his days of usefulness are rapidly passing, and grants to the young man the claim that he should give him a chance by surrendering that which has cost him years to gather (reputation), then the older man can sit down and realize where he is. The time should never come when the old man closes his library door, cancels his subscriptions for journals, and declines to buy new books. The older doctor should also realize his right to an aggressive attitude in relation to holding his patients and insisting that his mind is fresh with the newest knowledge. If, on the other hand, it is true that the old doctor has not purchased a book for many years, has not subscribed for a journal, then he has no right to complain if he has been turned aside for his younger competitors.

It is one of the pitiable things in professional life to find a man who through his best days, has gone on guessing as to the condition of his patient, and prescribing according to his guesses when he had at hand the means of accurate measurement of conditions. Let us then remind the younger members of the profession and the members in middle age, that they are one day to become old doctors, and warn them not to be found inefficient because they did not utilize to the full extent, the means that lay at hand.

TRAINING OF PHYSICIANS FOR SPECIALTIES

It has generally been believed that before a physician should take up a special line of work, that he should have engaged in general practice for a period of years, that he might have a wider conception of the field of medicine. A specialist who was trained only in one line, might become very skillful in the technical features of his work, but on account of the nature of his training, he could not have, as a general rule, a very wide conception of the bearings of his work. It is not probable that the older idea of a preliminary general practice before taking up a specialty, will be generally adopted, and therefore we shall find many young men going directly into some special line of practice. To meet the difficulty of the narrowing influence of a single line of study, the University of Minnesota has taken up the preparation of a specialist in the various branches of medicine. Beginning with the school year, 1914, the University undertakes to prepare young men for the degree of doctor of science. The course requires three years. As preliminary to this special course of work, the applicant must be a graduate from a high grade medical school, and one year's internship in a general hospital of recognized standing.

MEDICAL CORPS OF THE NAVY

The British Medical Journal and the Lancet have in recent issues called attention to the public services to which the young medical graduate may turn his attention. It appears that a large per cent. of British medical graduates may find employment in the army or navy medical service, in the Indian service, and so on, offering certain and definite incomes and a social status. In private practice, the opportunities lie in purchasing a practice or acting as a doctor's assistant, either of which requires considerable capital. In Europe, the practice of medicine is largely a public service and the number of graduates must bear some relation to the number of vacancies and retirements. The opportunities for private practice are much less than in this country. Those whose opportunities for observation are sufficient to form a judgment as to the tendencies of medical practice, must see a silent evolution in America towards European standards. The practice of medicine in the United States will never be as it is in Germany or Great Britain or other European countries, but will approach it insofar as our social and economic conditions approach theirs.

In this connection we copy an editorial from the Journal of the A. M. A. which offers opportunities for young men who are looking for them.

Those who may entertain doubts as to the public appreciation of the Army and Navy Medical Service should read the paper by Congressman James Hay of Virginia published in Munsey for November.

A few weeks ago, attention was called to legislation which had been enacted for the medical department of the army. The last Congress also enacted legislation for the Medical Corps of the navy which should make most attractive a career in that branch of the public medical service. Like the Medical Corps of the army, this corps is placed on a percentage basis equal to 6.5 per cent. of the total personnel of the navy, immediately increasing the corps from 345 to over 680 medical officers; there are at present over 350 vacancies. The corps now has all ranks, from that of assistant surgeon with the rank of lieutenant junior grade (corresponding to rank and pay of a first lieutenant in the army) to the grade of medical director with the rank of rear admiral (corresponding in rank and pay to that of a major-general in the army). The establishment of the rank of rear admiral for medical officers, other than the officer temporarily holding the rank of surgeon-general, is a special achievement for the Medical Corps of the navy, as it establishes a dignity of high rank for a staff corps. The upper grades of the corps, that is to say, above the rank of lieutenant-commander, (corresponding to the rank of major in the army), are distributed on a percentage basis—0.5 per cent. rear admirals, 4 per cent. captains (corresponding to the rank of colonel), and 8 per cent. commanders (corresponding to the rank of lieutenant-colonel). An officer in the lower grades of the Medical Corps is promoted through the various grades, with the officer of the line with whom or next after whom he takes precedence. Promotion in certain to be rapid for those entering the Medical Corps of the navy within the next three years. Twenty large general hospitals with most complete and modern equipment are maintained in various parts of the world. The corps also maintains a quarterly journal which reflects the scientific character of the work accomplished. Candidates for this corps are examined in two stages. The first stage of the examination is in the fundamental medical branches. The candidate, if successful, is then appointed to the Medical Reserve Corps. After a course of study at the Naval Medical School at Washington, D. C., he comes up for final examination for commission. The candidate may appear at a date mutually convenient to him and the board, as the latter is constantly in session at the naval hospitals at Boston, New York, Philadelphia, Washington, Norfolk, Charleston, Chicago, San Francisco and Puget Sound. To the young medical man who feels that he owes a duty to his country, and who would fulfill that duty, at the same time securing practical development, broadening travel and experience in scientific research, the Med-

ical Corps of the navy offers an exceptional opportunity.

STATE EPILEPTIC HOSPITAL

We understand that this institution will be opened some time in the early summer, and that there are sufficient applications on file to fill the institution; even more than the hospital can accommodate. It is sincerely to be hoped that the Legislature will be generous with this institution, which is one of the most important of our public welfare hospitals. There are a large number of epileptics in the state, and many friends of these unfortunates have been waiting anxiously for the opening of the epileptic hospital at Woodward. There are of course many epileptics who are hopeless and many more on their way to manifesting epileptic symptoms, and all cases, particularly those beginning to suffer from the disease, are as anxious as are the friends of those who are hopeless, because it is clearly felt that if any cure can be devised for the relief of epileptics, it must be in the very beginning of the affliction and before any marked degenerative changes have taken place in the brain. It ought to be particularly understood by the profession, that long standing epilepsy cannot be cured, and an institution for the relief, can only be one for their care-taking, but we still hope that in the earlier stages of epileptic manifestation, there may be some chance of arresting the disease or perhaps curing it. All this being true, the medical profession of Iowa who have an interest in public welfare matters, should use their utmost influence to encourage on the part of the Legislature, a liberal appropriation of money for this institution, and we hope that in another year, the superintendent will have no occasion to say that he has a waiting list for admission, for what does the waiting list mean? Certainly a number of young men and young women who must receive their care now if there is any hope for them in the future.

THE EXECUTIVE SECRETARY

If we are looking for further evidence of evolutionary changes in medical practice, we have but to note what is taking place in some of our neighboring states. The Ohio State Medical Association has elected an executive secretary who is not a medical man but a business man who understands the needs of the profession from the standpoint of organization and legislation. Indiana, at the Fort Wayne session, adopted the same course of action.

On several occasions we have prepared editorials calling attention to the fact that the State Medical Society should be regarded as the business organization of the profession of the state. In view of this fact we have been utterly unable to understand why every qualified medical practitioner in the state does not without hesitation become a contributing member for his own personal interest and welfare and how it is possible for any doctor through local jealousy, prejudice, or for any reason whatsoever, to place himself outside the helpful influence of the state organization. Consider, for instance, the question of malpractice suits to which he is daily exposed and from which he has no recourse except his own aided pocket-book, the question of workmen's compensation and the sure-to-come social insurance, imposing a burden which he has no voice in directing. The medical profession stands alone in disregarding its own interests. Look about and point out any business interest that does not have an organization to further its interests. The medical profession is said to be a learned profession. So it is, but has it not a business relation? Does the doctor now leave his silk hat in the hall and expect his honorarum there when he bows himself out? Are legislators waiting to find out what the doctor wants or inquiring what the legislation should be concerning workmen's compensation or health insurance so that the burden on the profession should not be too great?

If every eligible practitioner contributed $5.00 to the State Medical Society, it would create an influence so strong that if judiciously exercised with a fair regard to public interest and welfare, the medical profession would soon win a place in public respect. It is not for selfish professional purposes alone that we would urge this, for there are many things that make for public welfare that we could prosecute by better organization and better finance.

Let us think this over fairly and eliminate from our minds the idea that we are as individuals following a trade, but rather as an organized profession seeking the highest ideals of public welfare and placing ourselves in the best possible light before the public.

WHERE WELFARE FIRST BEGAN—JOHN WANAMAKER STORE, PHILADELPHIA, PENNSYLVANIA

This work gradually developed, until in 1906 the medical department was organized, and at the present time more than 50,000 cases of illness of all kinds come under the care of that department annually. The medical staff consists of a consulting physician, a medical director, two assistant physicians, two dentists, four nurses, and four chiropodists. The

equipment in the store at Philadelphia consists of five waiting rooms, five examination offices, a large demonstration and lecture room, a pathological laboratory, and three hospital rooms with four beds each. The dispensary, medical and surgical, is open during all the open hours of the store, and there are special clinics from 9 a. m. to 12 o'clock, and from 2 to 4 p. m. Special physicians are employed by the corporation for nose, throat, and ear cases, genito-urinary disease, nervous disorders, diseases of the respiratory tract, and diseases peculiar to women. The corporation makes a special point of its examination of applicants for employment, and this examination is carried to a high altruistic point. As the result of this examination, candidates are advised as to the character of the work in which they should engage, and those accepted are placed with a special view to their physical and mental qualities. Those who are rejected are carefully advised as to the cause of their rejection, and an attempt is made to advise them concerning the selection of employment elsewhere.

Concerning its employes, a watchful eye is kept to mark the approach of incipient diseases contracted by reason of city life and indoor employment, by dust-breathing occupations, and the various occupational diseases.—(Modern Hospital.)

EASTMAN KODAK COMPANY, ROCHESTER, NEW YORK

The medical department is in charge of a physician and two nurses. In addition, two other physicians and their assistants give practically their entire time to the examination of applicants for employment. A number of emergency hospitals have been established and fully equipped in different parts of the factory. Rest rooms are connected with all the working units, under competent supervision.

Remington Arms and Ammunition Company, Bridgeport, Conn., have a thoroughly equipped modern emergency hospital at the Remington works, in charge of two physicians, three nurses, and attendants, who treat upward of 100 cases daily. The majority of these cases, however, are only slight cuts or abrasions, as the company insists that in case of any other injury the man must be taken to the hospital for treatment. The hospital is furnished with three beds for emergency cases, to be used only for such time as is necessary to detain the patient before he can be safely removed to the Bridgeport Hospital. Fortunately they have been seldom used. Stretchers are provided throughout the works, and the guards and watchmen have been trained to act as ambulance bearers.

The greatest care is taken in the plan to provide against infection from any cause. Drinking fountains have replaced cups, lavatory basins are furnished with running water, and only paper towels are allowed to be used. Cuspidors are provided in all the machine shops, and the men are educated to use them, a sanitary corps of workers being provided on each floor to keep them scrupulously clean. Another department is known as the "safety-first" department, under the charge of a competent engineer, whose duty it is to safeguard against accidents of all kinds by the proper appliance of guards and safety devices. A section of one of the machine shops is set aside for the manufacture of these appliances. —(Modern Hospital.)

UNIVERSAL MILITARY TRAINING ENDORSED BY HEADS OF MEDICAL SCHOOLS

The deans of ninety-five medical schools of the United States met in Washington, D. C., recently at the invitation of Secretary of War Baker to discuss plans for co-operation with the Council of National Defense, and adopted a resolution declaring that a system of universal military training would be "of great benefit to the health, development, and proficiency of the youth of this land in both peace and war." The resolution also petitioned the Secretaries of War and the Navy to supply each medical school with an instructor in military sanitation and medicine, beginning not later than February 1, 1917, in return, promising that such instruction would be made an obligatory part of their courses. The resolution was introduced by Dr. Victor C. Vaughan, dean of the medical school of the University of Michigan.

RULING BY THE INDUSTRIAL COMMISSION

Compensation for a death caused by erysipelas, which developed in a burn on the arm, has been allowed by the Ohio State Industrial Commission.

A moulder sustained slight burns on his arm while in the course of his employment and ten days later erysipelas developed at the site of the injury, causing death. The commission's chief medical examiner held that "a burn of the arm could reasonably be the cause of the development of erysipelas in this case, or in any case, in which such injury took place."

It was the judgment of the commission that an award of $3,744 be made to the molder's widow for the benefit of herself and two children.

PEERAGE FOR A CANADIAN PHYSICIAN

It was announced in the London Gazette, under a writ dated September 8, 1916, that Dr. Gervase Bisney Alexander, Esq., had been summoned to the House of Lords under the title of Baron of Cobham. This action represents the revival of the ancient barony of Cobham by calling it out of abeyance in favor of a well-known Canadian physician. This barony of Cobham, which should not be confused with the Viscounty of Cobham, was suspended by the Act of Attainder of 1603. The original claimant was Dr. Reginald Gervase Alexander of Halifax, N. S., who has recently died, and who was the father of the new peer.

BILL RELATING TO DEFECTIVE CHILDREN

Dubuque, Iowa, Jan. 4, 1917.

D. S. Fairchild, Clinton, Iowa.

Dear Doctor: Enclosed find some material which Mr. J. H. Spencer of this city and myself are circulating in Iowa, relative to the establishment of day-schools for the deaf, etc., in this state, in such larger centers where a need for same can be shown.

I am taking the trouble to forward the information as I know you will be interested in it.

Sincerely yours,

HENRY G. LANGWORTHY.

(This bill was written by Mr. Jay Cooke Howard, President of the American Association of the Deaf. He has made a life-long study of the question, has visited scores of schools for the deaf, and probably knows more about the subject than any other living American. He is a gentleman of rare attainments, although totally deaf himself. The last session of the Minnesota State Legislature passed the bill with only one dissenting vote.)

An act authorizing and empowering any special, independent, or common school district in the State of Iowa, to provide for, establish, conduct, and maintain schools for deaf children, blind children, defective speech children, and mentally subnormal children in such school districts in certain cases, and appropriating money therefor.

Be it Enacted by the Legislature of the State of Iowa:

Section 1. **Education of Deaf Children**—Upon application of any special, independent, or common school district, complying with the provisions of this act, made to the state superintendent of education, he may grant permission to such district to establish and maintain within its limits one or more schools for the instruction of deaf children who are residents of the state.

Any school district which shall maintain one or more such schools, shall through its clerk or secretary report to the state superintendent of education annually, or oftener if he so direct, such facts relative to such school or schools as he may require.

The courses and methods of instruction must comply with such requirements as may be outlined by the state superintendent of education. All schools for deaf children established under this act shall be conducted by the combined system, which includes the oral, the aural, the manual, and every method known to this profession; and the courses and methods of instruction shall be substantially equal or equivalent in efficiency to the courses and methods of instruction established and employed in the State School for the Deaf at Council Bluffs, Iowa. The state superintendent of education may designate any member of his staff as an inspector to visit and note the progress of the schools provided for in this act.

Permission to establish such special classes may be granted to districts which have an actual attendance of not less than five deaf children, between the ages of four and ten years, who may come under the provisions of this act. Blind children, defective speech children, and mentally subnormal children are not to be admitted to the same class with deaf children, but must each have separate classes and separate teachers.

There shall be paid out of the current school funds in the state treasury annually in the month of July, to the treasurer of the school district board, or of the board of education, in the school district maintaining such school or schools under the charge of one or more teachers, whose appointment and qualifications shall be approved by the state superintendent of education, the sum of one hundred ($100.00) dollars for each deaf child instructed in such school or schools having an annual session of at least nine months during the year preceding the first day of July.

It shall be the duty of the treasurer of the school district or of the board of education receiving the aid provided for in this section, to render annually to the state superintendent of education an itemized statement of all expenditures of said school or schools. Any surplus at the end of the year shall be reserved as a special fund for the education of the deaf children of that district and can not be used for any other purpose.

Sec. 2. **Education of Blind Children**—Section one (1) of this act shall, as far as applicable, provide for and apply to schools for the blind, except that there shall be paid out of the current school fund in the state treasury annually in the month of July to the treasurer of the school district maintaining a school or schools for the blind under the charge of one or more teachers whose appointment and qualifications shall be approved by the state superintendent of education, the sum of one hundred ($100.00) dollars for each blind pupil instructed in such school or schools having an annual session of at least nine months during the year next preceding the first day of July.

Sec. 3. **Education of Defective Speech Children**—Section one (1) of this act shall, so far as applicable, provide for and apply to schools for defective speech children, except that these schools shall be under the control of the state superintendent of education and that there shall be paid out of the current school fund in the state treasury annually in the month of July to the treasurer of the school district maintaining a school or schools for defective speech children under the charge of one or more teachers whose appointment and qualifications shall be approved by the state superintendent of education, the sum of one hundred ($100.00) dollars for each defective speech child instructed in such school or schools having an annual session of at least nine months during the year next preceding the first day of July; and a share of such sum proportionate to the term of instruction of any such pupil who shall be so instructed less than nine months during such school year.

Sec. 4. **Education of Mental Sub-normal Children**—Section one (1) of this act shall, so far as applicable, provide for and apply to schools for mental subnormal children, except that these schools shall be under the control of the state superintendent of

education and that there shall be paid out of the current school fund in the state treasury annually in the month of July to the treasurer of the school district maintaining a school or schools for mental sub-normal children under the charge of one or more teachers whose appointment and qualifications shall be approved by the state superintendent of education, the sum of one hundred ($100.00) dollars for each mental sub-normal child instructed in such school or schools having an annual session of at least nine months during the year next preceding the first of July.

Sec. 5. **Limitation of Attendance**—Permission to establish such special classes as may come under the provisions of Sections 2, 3 and 4 of this act, may be granted to districts which have an actual attendance of not less than five children, between the ages of four and sixteen years.

Sec. 6. This act shall take effect and be in force from and after its passage.

THE "MINNESOTA" PLAN OF EDUCATING THE DEAF

(From the speech of Jay Cooke Howard, President of the American Association of the Deaf, at the Thompson Memorial Hall Dedication. Published in The Companion, Faribault, Minn., November 15, 1916.)

"There is a comprehensive plan for the education of the deaf children of Minnesota. * * * The state has made provisions for day schools for the deaf, which, if intelligently carried out and if the intent of the law is lived up to, will be models of their kind.

"These day schools may receive children only under the age of ten years, and no single method may be exclusively used. The method must be fitted to the child to meet individual requirements. When children reach the age of ten it is expected that they will be sent to the state school at Faribault. These day schools should be recruiting stations and feeders for the state school, while keeping active the minds of children too young to leave home. A day school that would attempt more, except in very large cities, will fail, for the reason that there can be no proper grading, nor can a sufficient number of specialists be employed.

"The essential feature of the system is an up-to-date and well equipped state school under a competent superintendent. Such a school should never be allowed to fall into a self-satisfied and complacent sort of rut, but be kept abreast of the constant advance in educational requirements. * * * "

THE THYROID AND ITS IODINE CONTENT

Dr. Harry G. Sloan in the Cleveland Medical Journal brings out some interesting observations in relation to the amount of iodine in thyroids. Hypertrophy of the thyroid is a physiological response to a demand for normal thyroid secretion in the strain to resist what Dr. Crile designates the Kinetic Drive. If the gland contains the normal amount of iodine, it is able to increase the body resistance to invading germs or intense mental strain, without undergoing any marked hypertrophic change. If, however, there is a deficient amount of iodine in the thyroid, it responds to the demand by enlarging and increasing its secretion even to the extent of hyperthyroidism. If in the beginning of this process, the iodine content be increased, the gland changes may be arrested, otherwise hypertrophic and degenerative processes may occur.

Dr. Sloan points out that goitre is much less frequently met at sea levels because people thus situated secure more iodine in their food, while people living in districts where the iodine in the food is just sufficient to meet the ordinary demands of secretion, the physiological reaction to the strain of invading germs, excessive nervous activity, etc., lead to pathological changes.

Dr. Sloan mentions the experiments made on sheep in the St. Clair flats around Detroit. "Some years ago all the sheep had goitres and the lambs became cretins to such a degree that it threatened the life of the sheep industry in that locality. These sheep had been salted with salt derived from the wells in the St. Clair flats which was low in iodine content. On substituting sea salt which is rich in iodine, for the St. Clair flats product, the goitres immediately disappeared from the sheep and the industry again thrived."

COLUMBIA WANTS $12,000,000

In his annual report as president of Columbia University, Mr. Nicholas Murray Butler asked for an endowment of $12,000,000 in order to create a great medical center. He also asked for an endowment of $6,000,000 for the dental school which was established this year, and for other endowments for the engineering departments, making a total of $30,000,000 needed by Columbia University.

DIRTY DOCTORS AND DIRTY OFFICES OF DOCTORS

(Would this apply to Iowa?)

The Indiana State Board of Health, at its meeting of October 17, 1916, passed the following resolution:

"Whereas, Frequent complaints have come to the members of the State Board of Health from citizens of this state concerning the dirty and unsanitary offices of doctors of medicine, and of dentists, and the members of these professions who are personally unclean, and

Whereas, Such dirty and unsanitary conditions are not infrequent, therefore be it

Resolved, That the State Board of Health of Indiana is sincerely sorry that such unclean and unsanitary doctors' and dentists' offices exist in our state, and also that doctors and dentists are frequently seen who are unclean and unsanitary in their persons and habits, hence, we urge all physicians and dentists, and especially health officers, to keep their offices in a sanitary condition and to be clean in person and

habit so that the public may look up to them as examples of clean and right living. And be it further

Resolved, That we respectfully urge the great body of physicians and dentists who are or who are not clean and sanitary themselves to give their hearty support to the State Board of Health in this very important matter, and by thus doing deserve the highest standard of respect as leaders of public thought and progress.

ELEVEN AND A HALF MILLION DOLLARS FOR CHICAGO UNIVERSITY MEDICAL SCHOOL

The General Education Board has announced that the board and the Rockefeller Foundation have jointly appropriated $2,000,000 which would be added to money and property worth $9,000,000 for the founding of a medical department at the University of Chicago. Julius Rosenwald, a Chicago merchant, has added $500,000 to the endowment of $2,000,000 which must be raised by the university under the terms of the gift from the Rockefeller Foundation. It is expected that the endowment will be brought up to the sum of $15,000,000. Dr. Abraham Flexner said that Chicago had been chosen, rather than New York, for the reason that the University of Chicago had no department of medicine now, that branch of science being taught by arrangement with the Rush Medical College; "So we will begin at the beginning of Chicago, without reorganizing an existing institution. The schools in New York, Philadelphia and Boston, for instance, already have staffs consisting of eminent physicians and surgeons who spent part of their time in practice. It would be very difficult to reorganize them so that the staff of teachers would devote all their time to the work of the institutions. The General Education Board is in favor of the full time plan. The University of Chicago made a proposal to us which we considered favorably." It is understood that the object is to provide advanced teaching which will obviate the necessity for foreign study by American students. It is understood that the Rush Medical College will go out of existence when the new school is ready to open. The school will be erected on the Midway Plaisance and the laboratory building will be near the Presbyterian Hospital which will be part of the school.

BOOK REVIEWS

SYPHILIS

By Lord Thompson, PhB., M.D., Physician to Syphilis Clinic, Government Free Bath House; Visiting Urologist to St. Joseph's Hospital; Consulting Pathologist to the Leo N. Levy Memorial Hospital, Hot Springs, Arkansas; First Lieutenant, Medical Reserve Corps, United States Army; Member of the American Urological Association and the American Association of Immunologists. Octavo, 415 Pages With 77 Engravings and 7 Colored Plates. Cloth, $4.25, Net. Lea & Febiger, Publishers, Philadelphia and New York, 1916.

The laboratory study of syphilis has removed the disease from any special department of medicine and placed it among the general diseases. It cannot now be classified as a genito-urinary disease, but on account of its pathology, as an infectious disease having a wide range of influence. The blood-vessels lie first in its range and suffer from certain changes which affect important tissues, particularly of the nervous system. It comes about, therefore, that books treating of syphilis must be rewritten. It is the purpose of Dr. Thompson to present the most recent information to the profession in a concise manner. An important chapter on Microbiology shows the immense importance of animal inoculation in developing certain essential facts in the pathology of the disease. With the pathology clearly in mind, the diagnosis and treatment become more exact and successful. We are daily confronted with the fact that were it not for the laboratory means of diagnosis, we should be led astray in many important cases. In the book before us, we have pointed out by one of large experience, the means of accurate diagnosis and treatment, the whole subject of syphilis from the chancre to the most complex relations of the disease to its remote influence.

SKIN CANCER

By Henry H. Hazen, A.B., M.D., Professor of Dermatology, Medical Department of Georgetown University, Professor of Dermatology, Medical Department Johns Hopkins University. Published by C. V. Mosby Company, St. Louis.

Like Dr. Hazen's book on Skin Diseases, this work shows evidences of thorough preparation, a well planned outline and the ability to express the subject matter clearly and comprehensively. As the author points out, the ease of obtaining portions of a new growth of the skin for purposes of examination, furnishes means of diagnosis, according to pathological processes, with the treatment readily applied and usually with a good measure of success. While of particular interest to the dermatologist, the work may well be used by the general practitioner who wishes to avoid the glaring errors of diagnosis and treatment of these lesions which are unfortunately too common and lead to the flourishing condition of the cancer quack.

WANTED—BACK NUMBERS OF THE JOURNAL

The Journal files are short the January, February, March and April, 1916 issues. Doctor, if you have these numbers or any one of them that you do not care to keep, would you be so good as to mail same to the Journal, 402 Equitable Building, Des Moines.

SOCIETY PROCEEDINGS

The Carroll County Medical Society held their annual meeting in December electing the following officers: President, O. W. Wyatt, Manning; vice-president, A. M. Evetz, Carroll; secretary-treasurer, W. M. Shirley, Carroll.

At the annual meeting of the Cherokee County Medical Society held at the State Hospital Cherokee, January 2, the following officers were elected: President, George Donahoe; vice-president, F. B. E. Miller; secretary-treasurer, C. H. Johnson; delegate to State Society, L. A. Wescott, all of Cherokee.

The Dallas Guthrie County Medical Society meeting held at Arlington Hotel, Adel, January 18 was largely attended. Dr. C. I. Thomas, of Guthrie Center, read an excellent paper on Cystitis.

The subject of the paper read by Dr. E. J. Harnagel, of Des Moines, was Twenty-five Cases of Spontaneous Hematuria.

In this communication the essayist dealt exclusively with the symptom spontaneous, cryptogenic or symptomless hematuria, and he sought to establish the fact that any one of a number of widely different pathologic conditions might cause this type of bleeding; hence a thorough urologic examination was regarded as absolutely essential to a worthy diagnosis.

Most of the patients, concerned in the report, declared themselves to be in good or fair health, and they sought medical advice only because of anxiety over the color of the urine. All were examined with the cystoscope, and the majority also with the ureteral catheter and the x-ray.

Of the twenty-five cases, nine were designated "essential hematuria." This diagnosis implied that in the course of a thorough and critical examination, the bleeding was traced to one or both kidneys but no cause for it was demonstrable. Six of the nine patients were men and three were women, of ages ranging from seventeen to fifty-eight years. In seven, the bleeding came from the right kidney and in two it was bilateral. All of them were much below par in weight and strength. The bleeding was usually intermittent; the duration ranged from four months to ten years. Six were treated expectantly and while yet alive, were in poor health; two were nephrotomized and are well; and one, who was very anemic, died in coma. No theory has been advanced, Harnagel holds, which will satisfactorily explain all the cases of essential hematuria.

One case of bilateral nephrolithiasis in a atheletic mail carrier, exhibited no other symptom than intermittent painless hematuria in five years.

In five cases of papilloma of the bladder, the only symptom noted for a long time was simple hematuria.

There were three cases of profuse and painless bleeding from the congested mucosae overlying hypertrophied prostates in patients who had not previously shown any special urinary disturbance.

Carcinoma of the bladder was found in two cases. In both the hematuria was soon supplemented by other vesical symptoms.

A syphilitic patient bled intermittently and painlessly for nearly a year from a small ulcer on the anterior wall of the bladder.

Sometimes, as in the remaining three cases, the cause of the hematuria remains in doubt. One had a very poor heart action and reddish urine came from both ureters. Another with normal ureter specimens showed scattered lesions in the bladder which looked like miliary tubercles; but the patient never returned for further examination. The last patient gave a history of bleeding but had waited until this only symptom had cleared up before coming for examination.

The Hancock-Winnebago County Medical Society elected the following officers for 1917: President, G. F. Dolmage, Buffalo Center; secretary-treasurer, B. F. Denney, Britt; delegate, H. R. Irish, Forest City.

The annual meeting of the Ida County Medical Society was held at the I. O. O. F. hall in Ida Grove, December 29. The officers elected at this meeting are: President, G. C. Moorehead, Ida Grove; vice-president, E. S. Parker, Ida Grove; secretary-treasurer, C. S. Stoakes, Battle Creek; delegate, J. E. Conn, Ida Grove.

The Iowa County Medical Society met at Marengo, January 4, and elected officers for the ensuing year as follows: President, J. P. McManus, Parnell; vice-president, C. A. Manahan, Marengo; secretary-treasurer, A. R. Moon, Williamsburg; delegate, I. N. Crow, Marengo.

The Jefferson County Medical Society met at the Leggett Hotel, Fairfield, January 29 with a large attendance. Dr. M. Bannister and Dr. S. A. Spilman, of Ottumwa, were the guests of the society. After a 6:30 dinner the scientific program was given by the guests—Dr. Bannister reading a paper on Epilepsy, and Dr. Spilman presenting a paper on the Management of Prostatic Cases in Old Men.

At the regular meeting of the Scott County Medical Society held at the Davenport Commercial Club, January 9, the dentists of the city were the guests of the Society. An address was given by the retiring president, Dr. Kuno Struck. Dr. Carl Vollmer, read a paper on Focal Infection. The subject of a paper by Dr. Milnor Case was Focal Infection of the Teeth and Treatment. The officers for the year installed at this meeting were: President, James Dunn; vice-president, Frank Neufeld; secretary, R. P. Carney; treasurer, S. G. Hands. A large repre-

sentation of the membership was present and an interesting meeting held.

The Fort Madison Medical Society held their tenth annual meeting with Dr. J. M. Casey, Ft. Madison. The secretary of the society, Dr. W. H. Newlon, gave a very encouraging report of the year's work—nine meetings having been held with a good attendance and a spirit of fellowship prevailing.

The Des Moines Pathological Society held its regular monthly meeting January 19, at Harris-Emery's Tea Room. Doctor Ralph H. Palker presided. The following papers were rendered:

The Formation of Acetone Bodies, by Fred Moore. The following facts were brought out in the paper: The acetone bodies are made by beta-oxybutyric acid, diacetic acid and acetone. These can be formed from any of the foodstuffs but they come chiefly from the fats. In severe cases they may be formed from the breaking down of amino-acids. They are rarely, if ever, formed from carbohydrate. Blood and urine of normal persons contain small amounts of acetone substances. Acetonuria is very common, but does not mean acidosis. The acidosis in diabetes is the most important acetone intoxication of human kind. During observation on two boys, ages three and eight respectively, in which quantitative analyses of the blood and urine was made, he found that acetone bodies found in the urine does not bear any relation to the amount occurring in the blood.

The common tests for acetone are very sensitive to tests for diacetic acid. Hence, when acetone is found in the urine and the test for diacetic acid is negative, it simply means that the diacetic acid is present in such small quantities that it can not be detected by ferric chloride. Acidosis in diarrhea of infants is seldom due to acetone bodies.

The second paper was by Doctor Julius S. Weingart on Some Modern Theories on the Production of Infection and Immunity. The paper was essentially a review of Vaughan's work on protein split products. The author described, after a short review of former theories of infection and immunity, briefly the methods employed by Vaughan in procuring large quantities of bacterial proteins, his experience with split products, and finally gave Vaughan's theory which is essentially that the symptoms of infectious diseases are due to poisonous proteins coming from bacteria (due to proteins of bacterial origin) which are split up by tissue ensymes in an effort to reduce these foreign substances to food, and that during the spilting process poisonous substances are liberated from all proteins. In the light of this theory the various manifestations of immunity becomes simply different phases of food digestion.

D. J. GLOMSET.

The winter meeting of the Iowa and Illinois Central District Medical Association was held at Davenport, January 11. About forty physicians were in attendance, and enjoyed the rendition of the program. Every contributor was present to do his part, and a most enjoyable and profitable time was spent by all.

Dr. E. F. Hoover, Davenport, presented the subject, Pyelography, giving the technique when thorium nitrate solution was used. The essayist particularly emphasized the safety with which this solution could be used, and demonstrated by means of lantern slides, its unquestioned value from a diagnostic standpoint.

Dr. W. D. Chapman, Silvis, Ill., read a paper on Health Insurance: Its Influence on the Medical Profession. After citing that European countries have proven the non-success of voluntary health insurance and furthermore sufficient proof is yet lacking to show that compulsory insurance can be continuously satisfactory to all parties concerned, Chapman maintains that the United States would benefit by delaying any adoption of the health insurance laws, similar to those now in vogue abroad until such a time as a plan can be submitted showing a reasonable promise of satisfaction both to the laity and to the profession.

Dr. H. J. Prentiss, Iowa City, in his discourse on the Sacro-Iliac Joint, especially contended that a knowledge of this subject was essential to anyone giving the field of obstetrics especial attention. Prentiss demonstrated by means of specimens, that the so-called Sacro-Iliac Synchondrosis is in reality a diathrosis and maintains that microscopic examination revealed the contiguous surfaces to be of true cartilage.

Dr. Archibald Church, Chicago, closed the program with remarks on the subject The Valuable Features of Cranks and Their Importance to Society. Dr. Church first outlined the field between the extremes of saneness and insanity, and in this field formulated a definite classification for all men who differ from the normal of their contemporaries. The classification was of unusually great interest and was enlightening. Beginning with Socrates the essayist then considered a number of philosophers, genuises, plain cranks, administrators and organizers, musicians, theologians, authors, leaders, criminals, and cult-founders of all ages. His recital of their peculiarities and stigmata was trite and filled with wit. He held that the apparent present increase of insanity proved to be, in fact, only a slight increase, the discrepancy appearing because of the increased life-duration, and the greater percentage of insane which is now coming within reach of the census taker. The increase, such as it is, is charged to syphilization rather than to civilization.

Following the meeting a buffet luncheon was served. The next meeting will be held in Rock Island in April. W. D. Chapman.

CHANGES OF LOCATION

Dr. T. A. Burke, of Britt, has removed to Mason City.

Dr. Ray W. Stoher, of Greene, has located at Charles City.

Dr. W. G. Johnson, of Coin, has removed to Princeton.

Dr. B. R. Huntington, of Dayton, has sold his practice to Dr. H. F. Kiesling, of Creston. Dr. Huntington has received an appointment in the U. S. Military Hospital at Washington, D. C.

MARRIAGES

Dr. Cornelius C. Kepler to Miss Florence Howard, both of Jolley, at Pocahontas Center, January 24.

BIRTHS

Dr. and Mrs. Harold Gardner, of Cresco, January 6, twins, son and daughter.

Dr. and Mrs. James W. Thornton, of Ackley, January, a son.

Dr. Wm. W. Stirlin and wife, of Delta, January 19, a son.

Dr. and Mrs. Lawrence E. Kelley, of Des Moines, January 22, a son.

Dr. and Mrs. F. S. Bonnell, of Fairfield, January 31, a son.

Dr. and Mrs. A. M. Merritt, of Pleasantville, January 21, a son.

DEATHS

William E. Whitney, M.D., age sixty-one; Rush Medical College, 1891; Fellow of American Medical Association; member of Hardin County and Iowa State Medical Societies; at one time superintendent of the Soldiers' Orphans Home in Davenport; a practicing physician at Eldora for twenty-two years and physician for the State Industrial School for Boys at Eldora, died suddenly at his home January 3 from apoplexy.

MEDICAL NEWS

Dr. A. C. Echternacht, of Mason City, has resigned as second lieutenant of Company D, Second Iowa Infantry.

Captain Donald Macrae, of Council Bluffs, who has had charge of the base hospital at Brownsville, has been promoted to the rank of major.

Dr. M. N. Voldeng, of Woodward, has been appointed a member of the National Legislative Committee of the American Medical Association.

Among the Iowa physicians spending the winter in Florida, are: Dr. F. M. Dean and wife, of Jefferson, and Dr. L. L. Lorenz and wife, of Charles City.

Dr. Eugene O. Koeneman, of Eldora, has been appointed physician at the State Industrial School for Boys, Eldora—the position having been made vacant by the death of Dr. W. E. Whitney.

Dr. John H. Shephard, formerly of Ft. Madison, located now at Couer D'Alene, Idaho, has been appointed a Mayo Foundation Fellow in Surgery, and will assume his duties at Rochester next month.

Dr. George Braunlich, son of Dr. Henry Braunlich, of Davenport, has located in Davenport for the practice of his profession. Dr. Braunlich graduated from Johns Hopkins in 1915 and has done special work in Paris and Berlin.

Dr. W. D. Runyon, formerly assistant superintendent at Oakdale, who a year ago was called to the medical staff of the Union Printers' Home at Colorado Springs, has been appointed medical director of the Woodbury County Tuberculosis Hospital, at Sioux City. Dr. Runyon will assume his duties at once.

Dr. H. Edward Kirschner, who was formerly superintendent at Oakdale but who has been located for the past five years at Monrovia, Cal., has entered into partnership with Dr. George B. Kalb, of Erie, Penn. Drs. Kalb and Kirschner will confine their work to the diagnosis and treatment of medical and surgical tuberculosis at Monrovia and Los Angeles, Cal.

Major Thomas F. Duhigg, of Des Moines, who has had command of the Iowa Field Hospital at Brownsville, Texas, since the troops were mobilized, resigned his position and arrived home January 21. On the following day, he was commissioned lieutenant in the Medical Reserve Corps of the United States Navy and ordered to report for duty at the Recruiting Station, Des Moines. Dr. Duhigg is to be congratulated on achieving these high honors, and his friends will doubtless be pleased to learn that his private practice will in no wise be materially interfered with by the duties connected with the work of the Recruiting Station.

DR. LENA A. BEACH, SUPERINTENDENT OF THE WOMEN'S REFORMATORY, ROCKWELL CITY

Dr. Lena A. Beach, of Carroll, was recently appointed superintendent of the Women's Reformatory at Rockwell City by the State Board of Control. In making this selection, the board has undoubtedly acted wisely, for Dr. Beach, by years of service, has prepared herself for work of this character. At the opening of the Cherokee State Hospital for the Insane a number of years ago, Dr. Beach began her services for the state, where, under the skillful tutelage of Dr. M. N. Voldeng, recently of Cherokee but now at Woodward, the women's department at the Cherokee institution reached a high plane of development. Following her resignation from this position in 1914, Dr. Beach went abroad, where she did special work in London. On her return, she spent considerable time in Philadelphia familiarizing herself with the work of some of the leading neurologists and psychiatrists in that city. Those who have been associated with Dr. Beach in institutional work know best her worth, and her appointment is well merited.

REMEMBER NOW THE ADVERTISERS, OR "A WORD TO THE WISE IS SUFFICIENT"

It is with genuine pleasure that the JOURNAL calls the attention of its readers to the advertising pages. It is, indeed, gratifying to the business management that the various firms now using our columns as advertising media, showed their continued confidence in the Iowa profession by renewing their contracts. With the exception of two laboratories, whose contracts expired recently, every firm using our pages has seen fit to continue taking space in the JOURNAL. This alone proves the merit of the policy pursued by YOUR JOURNAL, but we are constrained to believe that further proof is not lacking when national and international concerns see a reason for availing themselves of space within its pages. Who can question the above statements when such firms as the Quaker Oats Company, the Wander Company, the Victor Corporation, the Zemmer Company, the Abbott Laboratories, the Physicians Radium Company, and the Chicago Policlinic are among the new firms that have contracted space in the Journal for this year.

No one who has the welfare of the Iowa State Medical Society and its official organ, the Journal, at heart can pass over the significance of this increase in the number of our advertisers, for who of us has not already felt the influence of the high cost of living? As has previously been pointed out, the Journal is by no means an exception to this rule for the increased price of printing production, alone, amounts to almost $600. It is very essential, therefore, that this increase in price be met with in a manner working the least hardship on the individual members of the State Society; and to do so, it appeared that the most plausible thing was to increase the membership and enlarge our advertising field.

From present "unofficial reports," as the war correspondents say, the indications at our office point to an increase in membership, and as "seeing is believing," just look over the advertising pages and be convinced for yourself of the growth of our advertising section. The profession, however, should not be lulled to rest by the present accomplishments and fail "to take heed of the morrow," but it becomes the duty of every member of the State Society to make use of such products as are displayed in the pages of YOUR JOURNAL whenever it is possible to do so, for such reciprocity means the continuance of the confidence of our present advertisers and proves to them the merit of the Journal as an advertising medium.

In a recent United States Public Health Service Bulletin pointing out the ill effects of worry, we read:

"Consider the automobile. When the car is going to stand still for more than a few minutes the driver stops the engine. By doing this he saves gasoline, oil, and above all, useless wear and tear on machinery. If he lets the engine "run idle" he has wasted a lot of valuable material, shortened the life of his engine and in the meantime the automobile hasn't budged an inch. * * * No bird ever tried to build more nests than his neighbor; no fox ever fretted because he only had one hole in which to hide; no squirrel ever died of anxiety lest he should not lay by enough nuts for two winters instead of for one; and no dog ever lost any sleep over the fact that he didn't have enough bones laid aside to provide for his declining years."

From the standpoint of popular interest, of course the noteworthy occurrence of the year was the epidemic of poliomyelitis during the past summer.. In a way, however, the importance of this has been magnified, despite the fact that the epidemic constituents the largest of its kind on record. Each year the people of this city remain unmoved by the death toll exacted by diphtheria, measles, scarlet fever, tuberculosis, although each of the diseases named is easily more preventable than is poliomyelitis and each exacts annually a heavy toll of life. —Bulletin Dept. of Health, New York City.

DO YOU KNOW THAT?

Overheated, air-tight rooms beget colds?

A little cough often ends in a large coffin?

Bodily vigor protects against colds?

Efficiency decreases as fatigue increases?

The full pay envelope is the great enemy of tuberculosis?

The maintenance of health is the first duty of the patriotic American?

Exercise in the open air cures and prevents many ills?

OVALTINE—TONIC FOOD BEVERAGE

A Concentrated Extraction From Malt, Milk and Eggs, Flavored With Cocoa

"Phosphatides"—which are organic phosphorus compounds—constitute an important element in the repair and formation of nerve tissue and for increasing the number of red blood corpuscles. It is these elements which are so fully represented in our concentrated food beverage—Ovaltine—that make this product an ideal reconstructive agent in feeding convalescent patients. The appearance and flavor of foods prepared with ovaltine are very attractive and tempting, to the sick. Every physician who replies to our special advertising page xi, this issue, will be mailed complimentary a sample can with complete descriptive literature. Dr. A. Wander S. A., Berne, Suisse. American Depot: The Wander Company, 23 North Franklin Street, Chicago, Illinois.

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THE CANCER PROBLEM

Alanson M. Pond, M.D., F.A.C.S., Dubuque
Chairman Section on Surgery

It is surprising and exceedingly unfortunate, that with all the earnest, honest, scientific work that has been done during the past half century to gain a knowledge of the cause, pathology and the successful treatment of cancer, that so little has been accomplished which will escape serious argument or even doubt.

The medical profession is by no means a unit in its attitude toward this disease which has eluded so many illustrious and industrious workers.

This lamentable fact seems to have had the influence upon the medical profession of making it almost hopeless in its efforts to relieve these sufferers, and in consequence of this attitude there has been an appalling increase in these cases in this state within the past ten years.

The seventeenth biennial report of the State Board of Health of the State of Iowa for the fiscal year ending June 30, 1914, together with a personal report of the Secretary, Dr. Guilford H. Sumner, furnishes the authority for the following table of deaths from cancer occurring in the state of Iowa from 1906 to December 31, 1915, as follows:

1906—1199.
1907—1255—an increase of 56.
1908—1381—an increase of 126.
1909—1340—a decrease of 41.
1910—1412—an increase of 72.
1911—1479—an increase of 67.
1912—1500—an increase of 21.
1913—1579—an increase of 79.
1914—1610—an increase of 31.
1915—1805—an increase of 195.

Thus we observe that since 1906 to 1915, ten years, cancer has increased in our own state a trifle over 50 per cent. In 1906 there were 1,199 deaths due to cancer and in 1915 there were 1,805 deaths from the same cause. We also observe that in only one year was the death rate decreased from the preceding year.

From the foregoing table, it is not unreasonable to predict a death rate from cancer in Iowa for the year 1916 of about 2,000, or an average for each county in the state exceeding twenty deaths from cancer.

A careful study of the reports from the largest clinics in the country, show a remarkable uniformity of death rate. And the percentage in our own state does not differ materially from the statistics of other states.

Cancer ranks third, as the most frequent cause of death in the state. It is only exceeded by pneumonia and tuberculosis, the following table for the five years from 1906 to 1910, is of interest.

Year	Pneumonia	Tuberculosis	Cancer	Typhoid
1906	2050	1502	1199	309
1907	2439	1661	1255	305
1908	2290	1548	1381	278
1909	2137	1597	1340	321
1910	1880	1474	1412	379

When we consider that pneumonia is prevalent at all ages, and that tuberculosis is peculiarly a disease of early maturity, we can very safely state that cancer is the commonest cause of death in people over forty years of age.

It will, perhaps, be well for us to take up early in this discussion a capitulation of what we absolutely know about cancer, and in doing so, the writer will not attempt to give credit to each individual who has made these contributions, as it would necessitate a longer and a more comprehensive article than is contemplated at this time, and in taking up this classification, the subject will be considered under two heads: What we know clinically about cancer; and, What we know about the pathology and course of cancer.

Clinically we know that cancer never begins in healthy tissue. There is always some preceding warning that should have awakened the patient's suspicion and taken him to his family physician for an examination and explanation of his discomfort.

This warning is infallible, and those who take this warning early will be rewarded by the fact that in all probability their cancer is absolutely curable.

It is altogether probable that these warnings in the majority of cases will not become the warnings of cancer, but if the examination reveals a malignant condition, it is more than probable that it will be found very early in its course, and thus insure a good result by removal. It is unfortunate that the beginnings of cancer do not differ materially from conditions which are not cancer, and only by the thorough examination of any condition which has resisted treatment are we able to determine malignancy at a time early enough in its course to warrant a safe prognosis.

Clinically we know that an easy diagnosis means a grave prognosis: When a tumor of the breast is easily diagnosed as malignant, it is usually too late to promise much by any kind of treatment.

When a tumor is easily palpable in the epigastrium; when there are symptoms of obstruction at the outlet of the stomach; when there has been a loss of weight, an increasing pallor, a lessening endurance; then this case of cancer of the stomach has passed beyond the border line of safety, and death can only result from any method of treatment, be it surgical or otherwise.

We know clinically that pain is not an early symptom of malignancy, but that it is a late symptom. The physician or surgeon who dismisses a patient from his observation because his tumor or growth has not become painful, has lost his opportunity of serving his patient to the best advantage.

Clinically we know that the commonest sites of cancer in women are the uterus and the mammary gland. Any menstrual irregularity before the change of life, either in periodicity or quantity or quality; and any appearance of the menstrual function after the menopause, should awaken a suspicion. Frequently this suspicion may be unfounded, and it will be determined that the irregularity is due to to a fibroid, or perhaps to an endo-metritis, but the only safe attitude to take in the presence of such a warning is to know positively that these changes are not due to malignancy, and the only possible way to determine that fact is by a currettage and the positive determination of a cause sufficient to explain the bleeding, and this examination should be made by one having unquestioned ability to make the differentiation.

Experience of most surgeons of the country go to prove that a lump occurring in the breast of a woman over twenty-five years of age is probably malignant, and should be immediately removed.

Frequently there is more than one lump felt at this time, and the probability of malignancy is lessened, but the presence of one lump is very suggestive, and the removal may be positive assurance that the operation was done at a time to insure the best possible results in malignancy.

Mr. George Thomas Beatson, of Glasgow, has pointed out that the cancerous process in the female breast in strikingly similar to the normal function of lactation, stopping short of only one process. In cancer of the breast and in lactation, there is first a crowding of the acini of the gland with epithelial cells, these cells proliferate, undergo fatty degeneration, and then vacuolation, and it is excreted as milk. In cancer the process is identical except that the cells which have undergone fatty degeneration do not become vacuolated.

Dr. Bloodgood, of Baltimore, states that any ulceration of the nipple should give a suspicion of Pagets disease, which is really a cancer, and should be treated as such. (Virginia Medical Semi-Monthly, January 21, 1916.)

Concerning our knowledge of the pathology and course of cancer, we may say that we know that cancer always originates in epithelial tissues or in the prenatal structures that later become epithelial tissues.

We know that once this process has begun and this perverted activity takes place in epithelial structures, that nothing yet known will stop or even modify its progress.

We know that among these epithelial masses are found characteristic cell bodies described by Lebert, Russell, Darier and Plummer which are not yet proved to be in any way associated with the cause of this disease, and that the cause, as a single factor, has not been discovered.

We know that cancer is transmitted only by the lymphatics, and that through this circulation may establish a nidus in some remote portion of the body, as related to its site of first appearance.

We know that the younger and more active the individual in which this process appears, the more rapid and the more extensive becomes its distribution.

We know that recurrence after operation is due to the left-over structures which take on a renewed activity and reproduces with intensified energy the same class of tissue removed, and at the same or remote sites.

We know that there is no frank physical disturbance announcing its beginning in the body, but that its presence is more often discovered by accident than by scientific intent.

We know that death from cancer does not occur from any cause peculiar to the disease, but that it may and does take place from one of three causes common to many other conditions, viz:

hemorrhage due to the erosion of an artery by the morbid process; intoxication by the absorption of the decomposing substances produced by the enormous death of tissue, or by the obstruction occasioned by the encroachment of the tumor mass which obliterates some hollow viscus or vessel.

Quite an array of specific information: And what does it all tell us or teach after all? It compels admission of ignorance of the specific single cause of cancer, but leads us unerringly to a rational solution of the problem.

If nothing known has been able to stop this process or modify its course after it has been established, the most natural course would be to attack the condition before it becomes established. This should not be difficult when we positively know that cancer never begins in healthy tissue, and is always announced by an ample period of warning.

If there exists, not possibly but probably the tendency for this process to project its activity to remote portions of the body through the lymphatic circulation; is it not good surgery to remove this source before such a projection takes place? And if the lymphatic system is the means of extension, a very careful inspection and palpation of the lymphatic supply of the part should become a habitual procedure in every mass occurring in young persons, and our conscience should not be lulled into a false security by the mere fact that the mass is not adherent, nor is there any evidence of metastis. We should know what that mass is and what it is not, and know this positively, definitely and early.

After metastasis has occurred, almost any treatment will fail and any operation will be useless because it is not likely that the extension of the diseased process has taken place in only one direction and it will be quite impossible to conjecture the exact sites of its activity.

There seems to be a general feeling at present that there exists a prenatal or meso-epithelial relation to the formation of cancer, and that the cases which appear as a result of a trauma or from a continued irritation, really had their origin in a faulty inclusion of the genetic membrane instead of a change in cells by impaired or perverted activity. This theory is supported by the fact that in all irritations or sites of possible cancer that the cancer cells appear only after a proliferation of the tissue. Dr. L. B. Wilson, of Rochester, Minn., states that in the bases of gastric ulcer there are portions of epithelium which are cut off by the inflammatory products and that this segregated epithelium may die, but in cases which develop into cancer, the history seems to be that of first proliferation of the epithelium and then infiltration of the tissue surrounding it.

All of the work and all of the statistics of recent observers seem to lead us back to just one course of treatment if we would secure good results, such as might with propriety be called "cures." That point is the early recognition of the beginnings of cancer, recognition at the time of the proliferation of the epithelium and before the infiltration occurs. About 80 per cent. of the cures reported for the surgery of cancer of the uterus, the operation was done within four months from the observation of the first menstrual irregularity. In 76 per cent. of the cures of cancer of the breast, surgery was undertaken before the end of six months following the discovery of the nodule or lump, and the most brilliant work with a percentage of 100 per cent. cures followed the simple incision of the gland with removal of the offending mass without any mutilation whatever. The simple excision of a gastric ulcer with its base of cell proliferation which will inevitably become infiltrated, is certain to give a more secure sense of cure for a gastric cancer than the most perfectly performed gastric resection.

Good surgery then, so far as the treatment of cancer is concerned, does not require manual dexterity, or courage, or skill, or experience. It is simply a matter of recognizing this state while there is yet time for any surgery to secure a cure. There was a time when that ulcerating, sloughing, foul, repulsive cancer of the uterus could have been very easily cured. There was a time when that hardened yellowish white breast with its deeply retracted nipple, and axillary involvement, could have been treated with the positive assurance of a cure, and it is not and never can be good surgery to permit these cases to pass from the time when everything can be promised to these patients by treatment to the time when nothing can honestly be promised to them.

Every cancer is curable. That sounds like the statement of a charlatan seeking to profit from the misfortunes of suffering humanity. But it can be so easily proven. Every cancer at sometime in its course is easily cured. Is it not then, the greatest responsibility our profession carries, to bring to these two thousand souls that must perish in this state this year, all of our knowledge, all of our skill in treatment, all of our hope, and do this while there is yet time to save them from the inevitable fate which awaits them.

If the surgical treatment of cancer has the criticism of the public today, and it has, it is not because surgery has not effected cures, but it is

because surgeons have continued to operate upon suffering humanity long after the period of cure is possible.

Just as soon then as we consider with suspicion any condition that is subject to irritation, or that resists treatment for relief, and remove the area which shows the first inclination of epithelial proliferation, we will have solved in a great measure the treatment of cancer.

With early recognition of these masses must come some refinements in the technic and knowledge of the pathologists, for we have been content to recognize these bodies after the epithelial infiltration has occurred. The characteristic feature of any mass considered malignant, has been the fact of the epithelial infiltration. Dr. Bloodgood stated last December before the Western Surgical Society at Des Moines, that he had submitted sixty border line cases to a number of pathologists, and found that in not one single instance has there been a uniform opinion or agreement whether the mass was malignant or benign. We should not criticize our pathologists however, for they have been supplied with tissue only from cases far advanced in the cellular infiltration, and have come to recognize as cancer masses showing these characteristics, and just as soon as the medical profession bring to these pathologists, tissue of the pre-cancerous state, then we can in a very short time have a very secure knowledge of the pathology of these masses while there is yet time to do our patient the greatest amount of good with the least amount of harm.

The Cancer Problem then of today, consists in the education of every physician and surgeon in this state to recognize these cases before they have passed to the period of hopelessness. This education should also extend to the general public so that men and women will seek their physician upon the discovery of any unusual condition, and it will then be the duty of that physician to give his patient a careful physical examination. Thes conditions cannot be easily recognized when there is the greatest hope of their cure. They must be seen early to be cured, and if seen early and recognized, the mortality of cancer in Iowa will decrease as rapidly or more so than it has increased in the past ten years.

Before closing this paper, I would like to make a recommendation for the serious consideration of the Iowa State Medical Society.

There should be a committee appointed or selected to study the cancer condition in the state and undertake its control. This committee should be a large one, say one member from each county in the state. There should be a chairman, and it should be the duty of each committeeman, to supply every registered physician in his county with all possible information concerning cancer. This information should be secured by contribution of the medical profession and supplied to each committeeman in a printed form.

There should be a close relation between the profession of Iowa and the State Pathological Laboratory. Sections of suspected tissue should be reported upon promptly. In this way, one laboratory could have access to a larger amount of tissue than any individual laboratory could secure, and the opportunity for a study of precancerous condition afforded.

This committee should arrange for a county medical society meeting at least once a year when the public should be invited and a popular lecture given to educate them to consider their own warnings etc., with suspicion.

Every physician should be furnished blanks to report cases under his own observation of suspected cancer, and a classification made of these reports for the study and education of the entire profession.

There should be a state wide movement for the education of doctors and public concerning cancer, and the known means of combating it, and this movement justly and rightfully should originate with the Iowa State Medical Society.

"RHEUMATISM*"

JOHN W. SHUMAN, M.D., Sioux City

The title of a "snap-shot" diagnostician is one not to be sought. The doctor who seeks the etiological factor of a disease must take a full and complete history of the patient's ills; he must make a careful and painstaking physical examination; and he is forced to institute and accept all the correct findings which diagnostic instruments of precision will yield him, before he can arrive at anything like a correct diagnosis. It is quite true that "ofttimes the more data secured the more puzzling becomes the diagnosis." The easily satisfied individual is willing to accept a time honored complaint, *e. g.* "heart-burn," "indigestion," "neuritis" or "rheumatism," as a diagnosis without so much as a thought as to what the real underlying etiological factor, which has caused the train of symptoms complained of by the patient, might be.

Instruments and methods of precision as aids to correct diagnosis are common, but their general use is rare. Doctors are called conservative men and are proud of the distinction. Galileo

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devised the thermometer, but it was two hundred years before physicians admitted it to be other than a toy. The stethoscope did not become popular at once. The microscope and the bacterial origin of disease did not gain prestige in a day. It is only of comparatively recent date that micro-organisms have been given a place over uric acid as a cause of pain in and about the joints, nerves and muscles. Doctors of years of experience have kindly advised that "the census taking, examining and testing manner of fooling over patients is all "tommy-rot," that "it does not pay" and that "we never did it and our patients got along as well, if not better, than they do now." Of course we cannot agree with such ideas.

Acute and chronic rheumatism as diagnostic terms are still being used to account for any pain affecting the joints, muscles or nerves. If we would only begin with the premises, *there is no such a disease as rheumatism*, our conclusions would be nearer correct. Pain is caused by irritation of nerve endings; the irritation may be due to pressure or toxicity, or both. Micro-organisms produce toxines and play the greatest role in the causation of pain. One can explain and prove that most of the aches and pains which were formerly called "rheumatism" were really caused by pathologic micro-organisms. There would be extremely few diagnoses of "rheumatism" made today if a careful and painstaking search was made for the focus of infection, and that infective process removed.

In accordance with the foregoing statements, I wish to report briefly several instances in which a few years ago the diagnosis of "acute rheumatic fever," or some of its synonyms would have been given, large doses of salicylates administered, four to eight weeks in bed with a prolonged convalescence tolerated, and possibly a damaged mitral valve or some other complication sustained. Only the salient factors from the history cards are here noted.

Case 1. A salesman, age twenty-six, complained June 20, 1915 of "articular rheumatism." January 5th, the same year, he had experienced a severe attack of polyarthritis and six weeks in bed. He stated that "tonsillitis always preceded the pain in the shoulders, knees and feet."

Physical examination revealed submerged and diseased tonsils, temperature 99, pulse 110, a trace of albumin and one or two granular casts. I could not decide that the tonsils were the only cause of the trouble so I went over him three times, from hair to toe-nails, before I discovered an abscessed root of the left upper incisor tooth, which he promptly stated "was one of long standing." Streptococci were present in the exudate. His dentists would not extract the tooth, but said he could save the root by treating it. This pleased the patient greatly. His tonsils were removed. Two months later an acute attack of arthritis occurred in his right knee; the tooth was still discharging. I took him to another dentist and had that tooth removed; two days later the knee was well and has remained so. (April 29, 1916.)

Case 2. Carpenter, single, age twenty-five, entered St. Vincent Hospital, July 21, 1915; complained of "rheumatism" of the right wrist of two weeks duration. All cardinal signs and symptoms of inflammation were present. The left shoulder pained some. His temperature was 100, pulse 116, W. B. C. 13,000. Both tonsils were red, cryptic, swollen and tender. Streptococci were found in a smear and culture from a follicle of the right tonsil. He was put to bed. Heavy doses of salicylates and absolute rest slightly relieved the pain. At the end of ten days the wrist was no better and the tonsils exhibited an acute exacerbation. Drs. Park and Walters removed the tonsils. One week later the patient left the hospital, all pain and most of the swelling had disappeared. Two weeks later the right wrist was freely movable and he had no pain. April 21, 1916, examination showed a normal wrist.

Throat specialists dislike to remove tonsils when they are acutely inflamed. This was once true of the abdominal surgeon with reference to the appendix; he waited until the attack clearly subsided; but surgeons have proved that the earlier and the more thorough the appendectomy is done, the better it is for all parties concerned. This should be true of an infective process located in any other part of the body.

Case 3. Male, single, age twenty-one, a student, examined October 7, 1915, complained of "rheumatism" of the right shoulder of one month duration,—periodicity of attacks and other joints had been involved. Tonsils were removed six months ago, but made no change. Physical examination revealed thickening of the left upper jaw. The dental consultation suspected an impacted tooth. Roentgengram showed an impacted canine (abscessed?). The tooth was removed and the next day the lad had no pain on free motion of his shoulder and has had none since. (May 1, 1916.)

Case 4. Salesman, married, age forty-four, was examined March 13, 1915. T.100. P.92. Right knee and left elbow evidenced the typical symptoms of multiple arthritis. A well defined systolic murmur was noted at the apex which was transmitted well into the axilla. Heavy doses of aspirin relieved but did not "cure." April 16, 1915, I again saw the patient and this time found an abscessed right lower molar tooth. Streptococci were present in the exudate. The removal of the tooth yielded the patient immediate relief. Nine days later, against my advice on account of the mitral valve lesion, he resumed his work.

These are but a few, and I admit the most graphic, of many instances. I really believe that there is not a single case of non-traumatic arthritis which is not due to infection near (seldom) or remotely (generally) situated; and if this infective focus is found and removed, the result will equal many of the new testament cures.

Chronic rheumatism as a diagnosis, has also received a severe jolt, but possibly not so much attention has been given it because the pain is not so acute, the sufferer more long suffering, and the famliy doctor has no liking for "chronics." The following cases are noteworthy from two angles, first, because the previous diagnosis had been rheumatoid arthritis, and second, because the etiological factor was pulmonary tuberculosis with the joint changes but a secondary manifestation.

Case 5. Deaconess, single, age twenty-seven, admitted to St. Joseph Hospital, June 10, 1915. Previously diagnosed "rheumatoid arthritis and exhibited before a group of medical students as such." Physical signs, symptoms, and tubercule bacilli in the sputum, changed the diagnosis to pulmonary tuberculosis; a diagnostic dose of tuberculin increased the joint pains. To prove the diagnosis further, rest in bed, fresh air, sunshine, increased nutrition and elimination, caused her temperature, cough and pulse to decrease, the expectoration and joint pain to cease. She gained in weight, her joints became to a greater degree more flexible and at the present date (April 5, 1916) there seems to be an arrest of her malady.

Case 6. Real estate agent, married, age fifty-one, examined July 31, 1914. Complained of "swollen joints." His history showed that fifteen years prior he had experienced hemoptysis, night sweats and loss of weight. Physical examination evidenced signs and symptoms of chronic pulmonary tuberculosis, so when a subcutaneous tuberculin reaction showed "positive," the diagnosis of chronic pulmonary tuberculosis with the arthritis a secondary manifestation, became more than a mere guess. The tuberculin increased the joint symptoms temporarily. As he passed from my care, I am not able to report on subsequent events.

Case 7. Female, married, age thirty-seven, examined January 9, 1915. Previously diagnosed and treated as "rheumatoid arthritis." She was referred for treatment and not for diagnosis. All joints of the body except the temporomaxillary were involved. She was greatly emaciated. She coughed, but stated "did not spit." The chest evidenced signs of exudative bronchitis and the patient could be heard to "raise and swallow." By watching the patient and teaching her to expectorate, a half ounce of mucopurulent material was obtained, out of which were stained many finely granular tubercle bacilli. Rest in bed immediately stopped the joint pain. At the end of two weeks her cough, expectoration, temperature, and pulse were less and she had apparently gained some in weight and strength. She returned to her home physician's care, who reported six months later that "it was impossible to keep her quiet, but that as long as she did so her joint condition seemed to improve."

Although focal infection is not a new discovery, it is ofttimes newly discovered in a patient who has suffered an ache or pain for weeks, months or even years due to the lack of early suspicioning and a painstaking, thorough and careful examination on the part of the physician. Focal infection is fast becoming a fad, on account of which healthy teeth and tonsils are wantonly sacrificed, abdomens are needlessly opened and empirical medication (both the internal and squirting kind) persisted in. The reason is, not sometimes but always, faulty technic on the part of the diagnostician—snap-shot diagnostic work. Let us correct this by as careful, painstaking and conscientious work upon the patient as can possibly be performed.

Frances Building.

Discussion

Dr. Murdoch Bannister, Ottumwa—Dr. Shuman asked for cases in which tonsils had been removed during an acute attack. I wish to detail one case which comes prominently to my mind for the reason that it occurred but recently. A woman who had been having tonsillitis several times a year, came to me with the tonsils acutely inflamed and said that she wanted them out because she feared rheumatism, that she was beginning to experience joint pains. Her tonsils were removed and she immediately developed severe rheumatism which lasted eight weeks, longer than any previous attack had done. However, she subsequently made a good recovery and has had no further attack. In view of this experience I think it is inadvisable to remove the tonsils during a period of acute infection.

Dr. Henry Albert, Iowa City—Dr. Shuman has referred to the evidence brought forward in the last few years to show that cases of articular rheumatism are really infectious in origin. From clinical, laboratory, and more especially from experimental work, there is no doubt that such is the case. But no reference was made by Dr. Shuman to so-called muscular rheumatism, and since he has chosen to use the general term "rheumatism," I want to refer to some work, the results of which indicate that "muscular rheumatism" is in many cases distinctly infective in origin. As evidence of an experimental nature, I might say that two years ago, as part of our regular routine laboratory work, we injected a rabbit with a pure culture of a staphylococcus with the idea of getting multiple pyemic abscesses. As a rule when we perform such an experiment we find multiple abscesses in such organs as the kidneys, liver, etc.—the parenchymatous organs. In this case the animal did not succumb to the infection at the time we ex-

pected, and we gave it another dose of the same organism, following which the animal became stiff, rigid, and was not able to walk or get about in as lively a manner as it had been doing. We finally killed the animal and found to our surprise that there were no abscesses in any of the so-called parenchymatous organs—the kidneys, liver, etc.; but a large number of abscesses were found in the muscular tissue, the first time we had ever found them in such experiments. Since that time I have seen a number of references to similar experimental work that has been done, especially by Germans, who have followed it up more extensively than have we. Injecting the same organism in rabbits, they found the same kind of lesions—limited to the muscles and not present in the internal organs. In other words, these organisms have selective action on the muscular tissues, whereas the diplococci and streptococci are more inclined to cause joint lesions. We all know that many cases of so-called muscular rheumatism are caused by trichinosis more often than has in the past been suspected. Many patients simply have the principal symptoms, as muscular pain, for a short time, and unless there is other evidence of such infection, the real cause is often overlooked. We know that many of the organisms that may produce general infection, do so without the more marked localized lesion of abscess formation. Therefore it seems to me that muscular "rheumatism," as articular "rheumatism," is no doubt in many cases infectious in origin. It is, of course, more properly referred to as a myositis.

Dr. Frank M. Fuller, Keokuk—The essayist spoke of tuberculosis as the actual diagnosis in some of the clinical cases that were referred to, and I think it well for us to consider this fact in connection with all such cases. We are beginning to realize more and more that tuberculosis is a disease of childhood. We may not find any manifestations until early adult life, but if we study the cases in our practice day after day and week after week, where, merely from arthritis and from fever we are making our diagnoses of rheumatism, we will find if we go carefully into the history and clinical evidence (and I emphasize that word carefully), that many, many times we are dealing with tuberculosis at a time when it can be helped, rather than with a rheumatism. Another thing, you will never find in children a case of true, what we call, rheumatism, without finding in the family a history of tonsillitis or chorea. We find these children with tonsillitis, and yet they are suffering from those indefinite symptoms not necessarily arthritis, but those which we ordinarily consider under rheumatism and which are really due to a toxic condition. If we will take the history of every child in whom we suspect that a condition of rheumatism exists, we will almost invariably find this history of tonsillitis associated with it. And also we have learned that in examining children if we take as our guide the clinical evidence of rheumatism as found in adults, we will very seldom find rheumatism in children, but if we look for it as a life history of the child, with toxemia as the underlying principle for our guide, we will many, many times find that we are on the right track, and that removal of the focal infection will relieve. Just one more word. We cannot always remove tonsils or take out the teeth of children; the parents will not let us do it. What shall we do for these children then? We have been talking for years that quinine is the one specific drug in malaria; that the salicylates are specific in rheumatism—whatever "rheumatism" may be, we know what we mean by the word. We know that we have to continue the use of the salicylates or their derivatives over a long period of time in the cure of these conditions in children. If, with the administration of the drug, we combine rest, we do not have to continue treatment for so long a time, but if these drugs do any good, our results are due to the fact that with them we combat the toxins over a long period of time. I honestly believe that we cannot cure any case of chorea nor of rheumatic arthritis nor of the other manifestations, without putting the child to bed. Rest gives the body opportunity to get rid of the poisons that come from focal infection, and we apparently get a cure.

Dr. G. N. Ryan, Des Moines—In connection with the equipment of our offices, I believe it is well worth while to consider the importance of using transillumination where not situated so that one can use the x-ray to get pictures of the teeth, the processes of the superior and inferior maxilla, etc. If not so situated as to be able to secure x-ray pictures of these parts, you get on very well indeed with a transillumination outfit, which is inexpensive and can be attached to an electric light socket. We have found that this works out very nicely indeed.

Dr. Shuman—There is no word in medical nomenclature more vague than "rheumatism." Let us be specific and say arthritis, when we mean an inflammation of a joint; let us always search for the etiological factor, and label it streptococcic, tubercular, or luetic arthritis, etc., depending upon the cause. If we can not find the causative lesion, let us not say it does not exist, but be honest and say we can not find it If we attack the problem on such a basis, there will be extremely few cases which can not be labeled correctly. In reference to physical examination, I thoroughly agree with Dr. Ryan's views concerning adequate equipment of an office in order that a thorough examination can be conducted. This is very essential. Only recently a case came into my office complaining of a "sty" situated on the lower lid of his right eye. It was but "a little thing;" however, I put him through the regular routine examination, nothing was missed, and I found that he had an infected dermoid cyst of the sacrum which contained staphylococci. Of course the "sty" was of staphylococcic origin. He had a trace of sugar in the urine, an abscessed left lower second molar (per roentgenogram), and two urethral strictures. I cite this instance only to emphasize the point that we can not be too thorough when we examine those who complain.

SOME PRACTICAL POINTS IN THE TREATMENT OF THE DISEASES OF CHILDREN*

F. G. MURRAY, M.D., Cedar Rapids

The demand for specific remedies is natural. Given the sure cure, the road to the conquest of the disease is plain and direct. This road however is not always level. Practical details of administration often loom large between the specific and a recovery. For example, Flexner's serum is a wonderfully perfected specific for epidemic meningitis, but spinal puncture, simple though it be, continues something of a stumbling block to many of us.

With older remedies and more common diseases, the same principle obtains; it is often the "how to do" rather than the "what to do" that may well claim the practitioner's study.

The current mortality of diphtheria in spite of the perfecting of antitoxin, points to one of these practical problems. Given early and adequately, antitoxin does almost all that could be hoped for. Various things hinder its prompt use, for which physicians are not wholly blameless. Quarantine involves one of these causes of delay, the dislike to inconvenience a whole family. Antitoxin implies a diagnosis and consequent quarantining. But why wait for a diagnosis, bacteriological or otherwise? We give coal-tar and alkaloids on suspicion, why not a potentially life saving serum? Routine or precipitate administration were better than hesitant.

The fear of antitoxin is no longer general among the laity; grave susceptibility to horse serum is extremely rare, and usually gives a history of urticaria and horse antipathy. A drop of antitoxin on the conjunctiva will promptly start a warning reaction in such cases. The hazard of meeting them is negligable.

The reduced price of antitoxin and the liberality of most boards of health have removed financial objections. It is doubtful if curative doses of less than 10,000 units need ever be given. If, in uncertain or beginning cases 10,000 units have been administered, there will rarely be call for more. If after 10,000 units have been given, membrane advances in the throat, doses of not less than 10,000 units should be given at proper intervals. Underdosage of antitoxin is undoubtedly responsible for many fatalities. Overdosage is practically unknown.

A large share of the mortality in diphtheria is due to sudden heart disaster in convalescence. The universally approved treatment for cardiac weakness, acute or threatened, is mainly complete rest in bed—intensive inaction. The practical problem here is, the adequate application of this treatment to the ordinary case; the adoption of a safe and workable routine, if you will.

As conditions making rest treatment easy of application we have a bed patient to start with, and a reasonsable prospect of a short convalescence. On the other hand we have the tendency to crowd convalescence to get the family out of quarantine; we have to consider the comparative rarity and remoteness of heart complications and the bane of unnecessary doctoring. Are there any dependable indications to govern bed treatment in the ordinary run of cases of diphtheria and forestall the rare but preventable heart catastrophe? Several criteria present themselves; the severity of the primary disease, the patient's general condition, his previous history, etc., but all these are subsidiary to the condition of the heart itself, its rate and pressure. Absolute rest should be continued while slight exertion sends the pulse we will say to 100 or 90. Every thinking man will set his own limits of safety and order treatment accordingly. The important point is that every diphtheria convalescent be carefully estimated and observed as a possible heart case. Under such care there will still be cases that may be left ambulatory throughout with safety, but there will be few cardiac surprises and still fewer deaths.

In the presence of the toxemia of severe scarlet fever we are still all but helpless. The demand for a specific is most urgent and the problem for science rather than the practitioner's art. Many survive the toxemia to succumb later to septic processes in the throat and vicinity. A most satisfactory treatment of the angina of scarlet fever or any septic throat is urged by Kerley of New York. He irrigates the throat with very warm normal salt solution. One or more pints are used in a fountain syringe at a temperature of 115° F. to 120° F. at an altitude of about three feet above the patient who lies on the side with the mouth over a basis. The stream through the hard rubber point is directed to the back of the throat with considerable force. The gagging and coughing excited expose the recesses of the pharynx to the solution, dislodging masses of mucus and sloughs.

The solution is of course harmless and is agreeable, the heat is soothing and the process requires no bodily effort on the part of the patient. Children may have to be coerced the first time or two but the invariable relief afforded soon causes them to welcome it. Older patients will demand the irrigation oftener than it is prescribed. Simple in the extreme as this expedient is, it will be

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found in the severe cases applicable, efficient and agreeable far beyond the expectations of those who have yet to try it.

Recent years have brought little or no progress in the conquest of respiratory diseases. Their mortality in children under five remains stationary. Whether or not vaccine therapy mitigates whooping cough, remains to be proved. No convincing body of statistics is forthcoming. The disease in its characteristics would seem to lend itself to this form of treatment. All reports witness to its harmlessness. Added to Osler's six weeks and large bottle of paregoric, vaccine might well be experimented with in private practice where it chiefly prevails.

The mortality of respiratory disease in childhood closely parallels the severity of the bronchitis. The preferred treatment for grave bronchitis is still the steam inhalation. Pictures of croup kettles and inhalation tents still adorn the first page of all chapters on broncho-pneumonia in standard texts. Compared with expectorants, cataplasms, etc., the superiority of vapor treatment cannot be gainsaid, but the croup kettle is not popular in private practice. The bulkiness of the special apparatus, the bother of preserving, fetching and carrying and equipping it, the danger of fire, all conspire against it. The general use of electricity in the home has to a great extent obviated these difficulties and made vapor treatment easily practicable in any house where there is a small heat unit on a drop cord or even an electric iron. The latter can be changed into a plate heater by inverting it on a simple wire frame. (They sell them in the shops.) No special kettle is required; any kind of open dish may hold the solution on the plate, and the whole apparatus is introduced under the improvised tent as there is no flame to consume oxygen or cause conflagration.

Organic chemistry and the intensive dietetics of the baby hospitals have given us albumin milk; Eiweiss milk of Finklestein and Meyer, with its modifications. It is a recombination of the elements of cow's milk, rich in the proteid and poor in most of the other constituents. Its more important object is to furnish available non-irritating nutriment to the diarrhœic infant, conserving tissues and allowing diarrhœa to cease. That it does this most important service, more consistently than other artificial foods, conservative and competent pediatrists agree.

Albumen milk represents a distinct and permanent advance in infant dietetics, simple in its derivation from cow's milk and basic in its emphasis on the benign role of casein in the intestines. Some one of the various formulæ of albumin milk is posted in the diet kitchen of all modern infant clinics. Its limitations as a food in conditions other than diarrhœal, does not concern us here.

The reputed difficulty of preparing albumin milk should not obscure from us the valuable principle involved in its use. High proteid content with lowering of the other milk elements can be adhered to whatever our facilities for feeding in enteritis cases. Skimmed milk, the curds of skimmed milk suspended in cereal water as used by Grulee of Chicago and even the superseded egg—albumin water may at times be used to advantage.

It remains to be said, however, that the technique of making Eiweiss milk is not occult, nor too intricate to be attempted in private practice. The essentials for its preparation on a small scale are easily obtainable at any house in the city or country. The curdling, draining, sieve-treating and suspension of casein are culinary processes familiar to every competent cook. Any intelligent nurse or mother can master the details of the food under a physician's direction. It is well worth adding to one's therapeutic resources. Its timely availability may often be life-saving.

The points we have sought to here make, concern the commonest complaints we are called upon to treat in children, diarrhœa, bronchitis, sore throat. These three are second to none in importance. One-half the deaths in children under five years of age, have to do with bronchitis, enteritis or an angina. The means of treatment mentioned are all well known but susceptible of better use. They should well repay a wider and more intensive application.

Discussion

Dr. C. F. Wahrer, Ft. Madison—I desire to say a few words on this subject, not because I am a pediatrist, though I have been training with that section when attending meetings of the American Medical Association. First of all I will say that I endorse the three special points made by the essayist. In addition I want to say that in treating the child medically we should also treat it socially, winning its confidence. Teach the parents that the doctor must not be made a bugaboo—if the child needs punishment not to tell him—"I will send for the doctor and have him cut your ears off." Teach the child that the doctor should be considered his friend, for under those circumstances he can do a great deal more for the child when necessary for him to take care of it professionally. We meet many peculiar children; some will crawl under the bed and hide, others will scream, and so on. You cannot make a diagnosis in a child of that kind until he gets in a better mood. As regards methods of treatment, the principles given us by the essayist are good ones. It

is more difficult to diagnose a child's troubles than the ailments of an adult. It is almost as hard as the making of a diagnosis in the case of a certain woman who said to me, "I am not going to tell you anything at all, but just have you see what you can do for me." I asked her questions; she would not say anything. Then I had her come to the window and showed her the sign over the door of a veterinarian located across the street, and said: "There is a better man, he treats dumb brutes; go and consult him." Of course she was angry and left my office, which was very desirable. So the treating of children is akin to treating dumb brutes. The mother sometimes gives us much information about a child, and once in a while a vast amount of misinformation, and we have to get out of the child the necessary elements to make a diagnosis. I would especially emphasize the necessity of making ourselves "solid" with the child. The doctor to whom the babies will not go, or the dogs in the village bite, is not good to be a pediatrist. He must win the confidence of the children, as well as of the mother. Only in this way can you make yourselves useful in the highest degree. The strict science that has been suggested is first and foremost, the ability of the physician to make a diagnosis and to then apply the proper treatment is next, but to get the confidence of the child and mother is necessary in order to accomplish the above. The three diseases or difficulties affecting the throat, chest and bowels, are those which rob us of more of our children than all the so-called malignant diseases put together. This consideration in conjunction with the fact that our vital statistics in the State of Iowa are in the hands of the undertakers, will enable you to see the difficult job that is on your hands for the conservation of child life.

Dr. G. N. Ryan, Des Moines—I would like to emphasize a few of the points that our essayist has so ably placed before us for consideration. In regard to the contagious diseases, recent research work has proven that 90 per cent. of all contagious diseases are taken through the mouth. That percentage may seem high, but in watching these little ones during the years that I have been in practice, I have found that we have in the past neglected many, many things that should be considered. In the first place we have neglected the point Dr. Wahrer has made of getting acquainted and "making good" with the children, of securing their confidence and the real confidence of the mothers. If in work of this character I have attained any success in the last few years, I believe it has been through the channel of really giving time to getting acquainted with the children and gaining their confidence, then noting the symptoms, observing the expression of the face, and studying the case generally in order that I might understand what I had to contend with. Now, in scarlet fever, for example, I think that too often when called in to see such a case we say, the child has scarlet fever, and make no further observations of the case. Many times we find that the axillary temperature or perhaps the inguinal temperature has been taken. That seems to me to be reprehensible, for it does not give us any line at all. Second, we do not examine the throat. During a number of years' work in throat conditions, I have noticed complications of the heart, early. By detecting the murmur as it would show up very early, then putting an ice-bag over the heart in the precordial region, placing the child in bed very early and giving detailed instructions to the nurse or to the mother as to how to care for the child, about the diet, etc., I have conserved the strength of a great many little fellows, and in fact picked up the condition in its incipiency, watching the tonsils if you please. How many of us (and I am ashamed to say that I am one) have made a diagnosis of scarlet fever and then not watched the tonsils? One man in attendance at the International Medical Congress in London emphasized this point: That by making frequent application of phenol in glycerin to the tonsils, we will not have development of otitis media, and I have been gratified with the results of placing a depressor on the tongue, and, as the Doctor has said, causing the patient to gag and then applying phenol and glycerin around the tonsils. We all realize that when swelling in the throat closes the Eustachian tubes, we get infection back into the middle ear, with resulting otitis media and then the development of mastoid symptoms. This is very important. And then the first thing you know you get streptococcic infection into the circulation, as R.....has stated, then into the heart, and the lesion occurs. By having the tonsils removed and following up those cases afterwards, the crippled heart will compensate and within a few years you will find that these hearts are practically normal. Among my records are a number of cases where such hearts have been compensated and restored practically to the normal. I believe it is too often the case that we overlook heart complications in children, and now we know that they come right directly through the tonsil. I am using albumen water or other special preparations that carry protein down into the bowel, for I believe that by this means the protein is absorbed, increasing the leucocyte count and whipping up the defence exactly as vaccines do. Very recently we have found that investigators in the research laboratory were using small doses of protein right from the egg into the vein, which brings up the leucocyte count within a few hours, running it up to 30,000, 40,000 or 50,000. In cases of pneumonia in children, if we take the blood count right away, we find that it goes very high. So I think that the protein foods cannot be over estimated in the treatment of these diseases, because they aid the defence. In the future we should treat these cases more carefully than we have done in the past. It is advisable to irrigate the throat and nose systematically and carefully in order to prevent the chain of serious complications which so often follows these conditions. Let us give these cases our most painstaking consideration, when our infant mortality will surely be lowered.

Dr. John F. Herrick, Ottumwa—I agree practically with everything that has been said, but would like

to ask Dr. Ryan, or have the essayist answer for him, one question: "Is this leucocytosis referred to by Dr. Ryan, brought about by giving protein? Are we certain that this is not a specific reaction to that particular protein, i. e., egg albumen? Would it have the same effect in destroying the bacterial protein, that it would have in destroying the egg albumen?" This is a question that came to my mind when the matter was mentioned.

Dr. C. A. Boice, Washington—As to the suggestion made a moment ago that a baby is hard to examine because it cannot tell us anything: A baby may not be able to tell us anything, but it cannot lie. Whatever observations we make are the truth if we know how to observe. I really believe that babies are the easiest people to examine and diagnose, because what you do find out is the absolute truth. Just a point about the feeding of infants. Every baby can be breast-fed, it has been said. That may be true in most states, but not in Iowa. It is, however, essential to know how to feed the baby, and don't let your preceptor be the patent-food fellow who tries to sell you a dope to put in the milk. I know of only one place where it belongs and that is in the waste basket. If a baby has an acute enteric condition, there isn't anything going to do any more good for the time being than starvation or a water diet for three or four days, and if you understand the modifications of milk you can fix up a diet for that child upon which it will thrive, and you do not need to utilize a patent food for that purpose.

W. H. Rendleman, Davenport—I want to express a word of appreciation for a paper of this character. It is important not only because of its scientific nature, but from the fact that we seldom hear these subjects talked about in our medical society meetings. We hear about gall-bladder, stomach and head surgery, but how vastly more important is the subject under consideration as compared with those topics we hear so much about. How many cases of scarlet fever and diphtheria do we see and hear about, as compared with the number of gastro-enterostomies, cholecystotomies, and operations of that character which we have occasion to perform? How often are scarlet fever cases treated without ever making urinalysis? You will see a patient two or three times and dismiss him without ever having made urinary examination. A month or two later the patient may have edema of the ankles, headaches, swelling under the eyes. You did not make examination, whereas an appreciation of the condition and proper rest in bed and a milk diet would have prevented nephritis. There is repeated tonsillitis in children, the urine not examined, and yet how important it is. We realize that many cases of chronic nephritis are brought on by repeated attacks of tonsillitis. Given a case in which you find albumin in the urine two or three weeks after an attack of tonsillitis, and there is a history of repeated attacks, if these tonsils are removed, further attacks of tonsillitis and the development of chronic nephritis later will be prevented.

Dr. Murray—Just a word in appreciation of Dr. Wahrer's remarks as to children and parents. What he has said about the previous education of the child by its parents with reference to the doctor, is true, as are his statements in regard to the usual perfunctory examination made by the doctor to ascertain the condition of the child, and it is all very important. Dr. Ryan referred to the preventive treatment in the mouth. That seems to me to be of great importance. I saw a few days ago (I do not know where) the statement that the dental conditions of children constituted the most neglected phase of childhood's pathology. The mouth and teeth are certainly neglected in the matter of prevention. Of course, the preventive features I did not touch upon, but they are most important. Dr. Herrick spoke of the specific leucocytosis. I will leave that question for Dr. Ryan to answer. In the matter of leucocytosis I am not prepared to say anything as to the ambiguities that might come as the result of a foreign serum being injected. Dr. Boice referred to the matter of breast feeding. Within the limits of this paper, nothing could be said regarding this subject. All who treat infants should stand on the basis that breast feeding is the only proper feeding and that it does away with a large proportion of the necessity for elaboration of artificial means of feeding. Just a point as to the starvation period spoken of. Of course, in cases of enteritis, a twenty-four hour period of starvation feeding could go hand in hand with anything in the way of albumen diet, but we have this difficulty: At the end of that time, after you have gotten the benefits of the starvation treatment, is the point where the availability of protein food has its great field. The starvation period is necessary, it is essential, but in the period immediately following this, the giving of an available food that is non-irritating, is where we need to make an advance and where we believe we will get it in the further elaboration of proteid food. Dr. Rendleman mentioned the advisability of urinalysis in these cases. This is a field that is just beginning to be appreciated. I notice that in the Chicago Clinics, and especially in Grulee's work, a great deal of stress is laid on microscopic examination of the urine of children in all infectious diseases. Perhaps Grulee carries to extremes the significance of finding pyelocystitis a week or ten days after infectious diseases in infants. They have there established the routine of examining the urine microscopically and counting the leucocytes, then treating the condition of the kidney, not only in scarlet fever, but in all infectious diseases.

Dr. Ryan—With reference to protein being injected directly into the vein in cases of eruptive fevers, I wish to say that last week I was at the Memorial Institute, the research laboratory connected with Rush Medical College, and they told me there that the whipping up of the leucocytes to increase the count did seem to affect these conditions the same as do the antigens; for instance, the leucocytosis in streptococcic pneumonia, which was in-

duced through an antigen being produced, did affect these forms in pneumonia and bring on the crisis within twenty-four to thirty-six hours. In following up these cases it had been found that the administration of protein in an infinitesimally small quantity whipped up the leucocyte count and aided the defence. The investigators were not yet ready to make definite statements, but they had been surprised by what had been accomplished along this line. From my own personal experience I could not answer the question definitely.

TUBERCULOSIS OF THE KIDNEY*

C. M. WRAY, M.D., Iowa Falls

I feel that it is a trespass upon your time and patience for me to attempt to present this subject to you as I have nothing new to add to the literature, but as I feel it is an important topic and that cases are not altogether rare, we can perhaps profitably spend a few moments in a brief review. At the beginning I wish to state this will be more in the nature of a review of the subject as given in the work on diseases of the kidneys, bladder and ureters by Howard Kelly and Curtis Burnam, than an original contribution, and wish to so acknowledge at this time.

Some years ago while associated with the late Dr. Charles W. Oviatt of Oshkosh, Wis., I was impressed by the number of cases that came to his service and became quite interested in the subject. Especially was I impressed with that now well-known fact, that by far the most of these patients come to the doctor complaining of vesical symptoms, and if we can get nothing more out of the present effort than a refreshing of our memories on this point, I for one, will feel repaid.

Frequency of Occurrence—It is difficult to arrive at any correct estimate of the frequency of the disease as we must depend entirely upon autopsy records of general hospitals, and the percentage of cases would necessarily vary with the class of cases admitted to the hospitals in question. For the sake of clearness, it can best be studied under several headings.

First—The frequency of tuberculosis of the kidney at autopsy without reference to class of cases admitted. Here we find that the combined statistics of five large hospitals show in 12,688 autopsies, 603 cases of renal tuberculosis, or 4.7%.

Second—The frequency where there is active tuberculosis elsewhere in the body: In this type we find, combining the figures of Posner, Brown and Walker, that 20.2% have renal lesions.

Third—Frequency of renal cases in those dying of miliary tuberculosis: Walker in thirty-six such cases, found both kidneys involved in all, and Morris in twenty-nine cases found both involved in twenty-eight and one kidney in the twenty-ninth.

Fourth—Influence of age on frequency of miliary and caseo-caverous types:

The miliary type is much more common in children and the caseo-caverous type more frequent in adults. Morris with a large experience, says that he has never seen the caseo-caverous type under ten years. Hamill, however, has collected fifty cases from the literature.

Fifth—Frequency of unilateral caseo-caverous type in proportion to bilateral cases:

The miliary type is practically always bilateral from the beginning, but not so the caseo-caverous type, and upon this fact the surgical treatment is based. The combined statistics of Fisher, Halle, Motz and Vigneron, give out of 453 autopsies of this type, 253 with only one kidney involved. When we consider that these are autopsy figures, meaning of course extreme cases, we can readily believe Israel's conclusions that clinically at least 90 per cent. of the cases are unilateral early in the course of the disease.

Sixth—Frequency of renal tuberculosis without evidence of a similar lesion elsewhere in the body:

This brings up the question at once. Is tuberculosis of the kidney ever primary? Clinically of course this cannot be shown positively, and when we depend upon autopsy records for information, the rarity of such a condition is easily understood. Tuberculosis limited to one kidney does not primarily kill the patient. If we grant a primary renal tuberculosis possible, we must assume that the bacilli have entered the body, passed into the blood-stream without localizing until they do so in the kidney. The preponderance of evidence says that the kidney lesion is practically always secondary to another focus, most often, perhaps, mediastinal glands.

Different workers, notably Calmette and Guerim, have proven that virulent bacilli (T. B.) can be fed to cattle, etc., and bring about an involvement of various glands, the pleura, etc., and this without leaving a trace where they pass through the mucosa of the gastro-intestinal tract. It would seem possible then to have a true primary renal tuberculosis, and in fact a few cases are on record as such.

Let us now consider the portal of entry of the bacilli into the kidney, admitting their presence somewhere in our anatomy.

Three routes have been much discussed

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First—Through the kidney capsule by direct invasion from some infected adjoining organ or tissue. Kelly and Burnam report that they have never seen such a case, but say that several authentic cases are on record. The first tubercular kidney on record was of this type, an extension from the lumbar glands, reported by Morgagni in 1767. This method is however admitted to be the exception.

Second—Extension by way of ureter: At one time this was credited with being the road of infection in every case, the kidney lesion being considered secondary to some lesion in lower genito-urinary tract. There has been in the past much debate over this part of the subject.

We note that as early as 1830, Cruvelhier, and in 1859, Wilkes, concluded that the kidney was involved prior to the bladder in most cases, but these conclusions were overshadowed by the opposite view until as late as 1888, Guyon is quoted as saying that "A unilateral tuberculosis of the kidney did not exist without a similar lesion in the lower genito-urinary tract." This retarded progress in the diagnosis and treatment for many years.

Then between 1890-1900, the modern cystoscope was perfected which enabled the workers to clear up this dispute; so much so that I think the conclusions of Christian Fenger aptly state the present view. He wrote in 1900 as follows:

First—The disease is in most cases hematogenous in origin.

Second—The bacilli may have disappeared from the original focus and the kidney be the only part effected.

Third—The disease is at first unilateral.

Fourth—In course of time, the other kidney may become involved, when so it is by way of the blood stream and not by way of the bladder.

The third portal of entry into the kidney is by way of the blood stream, and as concluded by Fenger in 1900, it is today proven by postmortem studies, animal experimentation, and clinical observation to be by far the most usual method.

Pathology—We find here as other organs two types.

First an acute miliary form, practically always a part of a general miliary tuberculosis, nearly always bilateral, occurring most often in children.

Second a chronic so-called caseo-caverous type, unilateral in about 90 per cent. of early cases, and about 30-40 per cent. of late cases

Bearing out the claim that it is embolic or hematogenous in origin, we find that when examined in very early stages, the lesion, the microscopic tubercle, is most often located in the vessels of the glomeruli. Harris of Chicago has stated that he has seen the tubercle in the wall of the blood-vessel as the only lesion. If the lesion is in the glomeruli, we would expect to find the bacilli in the urine early in the course of the disease. On the other hand the lesion may be located in such a manner that extensive destruction of tissue, caseation and abscess formation could take place without ever finding the bacilli in the urine. At times the lesion may be in the very apex of one or more pyramids, or in the pelvis proper. The end result may be large abscess formation, a contracted mass of scar tissue, or perirenal structures may be involved. The question of whether the ureter remains patent or not, has a decided effect upon the condition found in the kidney, as it does also upon the symptoms produced. This is largely self evident. The cases with occlusion of the ureter are more prone to large abscess formation and clinically to septic symptoms.

Symptomatology—Essentially a chronic disease, except the miliary type, it can and does sometimes run a "Silent Course" until one kidney may be entirely destroyed. Kelly and Burnam give an average duration of three and one-half years as the time their cases had existed when first seen by them.

First the general or constitutional symptoms. These are the same as in case of the same disease elsewhere, but as Murphy so well emphasizes in his clinics, April Number, 1914, we can easily err in early diagnosis unless these symptoms are kept in mind and given due consideration. These symptoms are slight afternoon temperature, increasing fatigue, loss of weight and inability to keep up to the usual point of efficiency in one's work. However, Kelly and Burnam say that in one hundred cases with well marked renal involvement, 30 per cent. were reported as in robust condition and 42 per cent. as in fair health.

Second—Symptoms referable to genito-urinary tract. First those referable to kidney itself.

It is a very striking feature that the symptoms do not point to the kidney, even so much so that it is a point of contrast to most other kidney lesions. There may be pain in the kidney, extending along course of ureter, even attacks of renal colic. Out of sixty-three cases, the authors found the sole local symptom pain in the kidney in only six.

Enlargement of the kidney is sometimes made out and Murphy's fist percussion test may be positive.

Second—Those symptoms referable to bladder. Increased frequency of urination, nocturnal as well as in day time, is by far the most important guide-post to put us on the look-out for this dis-

ease. All writers, Kelly, Noble, Bevan, Harris, Murphy and a long list, agree as to this. Johannessen of Christiana, cites thirty cases, in six of which this was the sole subjective symptom. In the sixty-three cases mentioned above, it was the only symptom from beginning until the end in twenty-two, or approximately 33 per cent. With the increased frequency of urination there may be, and probably is no increase in amount of urine, a point that must be kept in mind.

In connection with the increased frequency must be mentioned the peculiar urgency in voiding. It is almost characteristic that once the desire comes to void, the patient must do so at once, even in early stages before the bladder is involved at all, patients will wear napkins or urinals because of this condition.

It is interesting to note the explanations as to the cause of the vesical symptoms. Of course it goes without saying that when the bladder becomes affected, the vesical symptoms will predominate the field. I have personally observed the end stages of several cases, and can assure you there is hardly any other condition that can cause the intense suffering as a tuberculosis of the bladder. But what is it that makes the increased frequency, etc., when the interior of the bladder shows no lesion? Some say a reflex nervous manifestation. There is no doubt much to give weight to this claim. Another reason given is that the urine is of itself irritating to the bladder.

Third—Changes in the urine:

1. Hematuria—It may be the symptom that brings the patient to the doctor, but is not usually. In 100 cases, only one-fourth complained of having passed blood. Microscopically red blood cells are found more often.

2. Turbidity—Not a constant symptom, may come and go, due to temporary blocking of ureter. Pus microscopically is quite the rule, 98 per cent. of the cases.

3. Acidity—It is well to bear in mind that a turbid urine, containing pus, acid in reaction, favors diagnosis of tuberculosis.

Diagnosis—First by all means get the history. I venture the assertion that if the history is carefully taken, the diagnosis will be made in 60 per cent. of the cases from this alone. Nearly enough made so that it is our duty to prove tuberculosis absent before arriving at another diagnosis or send the patient away with diagnosis of cystitis which too often is no nearer a diagnosis than stating that a patient has a pain or a cough.

A prolonged study of the urine, staining many slides if necessary. Animal inoculation is to be used to clear up doubtful cases.

The tuberculin test is also often of aid, and especially favorably mentioned by Murphy.

A painstaking examination of the interior of the bladder should not be omitted. The perfection of the cystoscope has really revolutionized the study of kidney and bladder diseases, this especially when it comes to establishing the extent of the disease. The appearance of the orifice of the ureter is often diagnostic and has to be seen to be appreciated.

The x-ray is of value as an aid in determining size of kidney, presence of calculi, etc. Time will not be taken to discuss the different tests used to establish the functional capacity of each kidney, more than to say that every means should be used to learn the condition of each organ when the removal of one is contemplated.

Prognosis—The writers in question say that an average of five years is the limit of the disease and that the bladder becomes involved in two years. They report one case with symptoms dating thirteen years with lesion in each pole of kidney but healthy tissue between and no bladder involvement. On the other hand, certain of their cases with symptoms only one year, showed entire kidney destroyed.

Spontaneous Healing—They admit the healing of lung, bone and gland tuberculosis but say a study of their kidney cases does not disclose an instance of definite healing of the process in the kidney. "The only cases known to heal are those with occluded ureter and completely destroyed kidney." The vast majority of cases of tubercular kidney mean infection of the bladder, a painful disease lasting years and resulting in death.

Treatment—The authors advocate operative treatment as soon as the diagnosis is positive and complete, adding that of those operated early before bladder involvement, practically all recover. Of course we are granting in the above that the disease is unilateral.

Murphy, April Clinics, 1914, does not agree with the above as he says many cases recover under hygienic and tuberculin treatment.

Bevan writing in 1906, advised early operation in practically all cases.

Harris in an article, October, 1909, Journal A. M. A., advised climatic treatment for some so-called mild cases, saying he has seen them recover, symptomatically at least.

I do not deem it wise to take up the technique of the operation, nor discuss whether nephrectomy, nephrotomy or just what should be done in each case.

ACIDOSIS AS A SURGICAL COMPLICATION*

Wayne M. Shirley, M.D., Carroll

Up until a few years ago the term acidosis brought to our minds, one, and only one condition—namely a stage in the medical disease, diabetes mellitus, in which through some obscure, abnormal metabolism, organic acids appeared in the urine, as well as the already present glucose. These acids were diacetic and beta-oxybutyric. The substance acetone always preceded their appearance. In the light of our present knowledge, the term acidosis is not limited to the above described condition. We now recognize that a condition of acidosis occurs in diseases other than diabetes, and that it is an abnormal manifestation of metabolism which places many a patient's life in jeopardy if the condition is not recognized and the proper treatment applied. We also know now that it is not always the acids, diacetic and beta-oxybutyric which are present and disturb the patient's condition, but that other acids may be formed through faulty metabolism, and by neutralizing the normal alkalinity of the blood, lower the vital resistance of the patient. Just what these acids are, has not been fully determined, but it seems likely in many conditions it is an excessive formation, or abnormal retention, of the normally present acid sodium phosphate of the urine. The condition, in which acetone, diacetic and beta-oxybutyric acids occur in the urine, is more properly known as an acetonuria or ketonuria.

On the whole we may say that the condition of acidosis is of frequent occurrence. My object in presenting the paper is that the condition may be brought once more to our minds, in order that in trying to explain some obscure symptom or symptoms in a post-operative or medical case, the possibility of an acidosis may not be overlooked.

It is unfortunately true that a physician diagnoses only those conditions or diseases which come readily to his mind and whose symptom-complexes are fairly or remotely familiar to him.

Acidosis occurs in children in connection with the acute exanthems or the acute diarrhœas, and in adults in continued high fevers and in slight intestinal infections, in typhoid fever, in starvation, in eclampsia, in phosphorus or alcoholic poisoning, in uremia and after inhalation anesthesia or surgical shock. It may even be induced in health by a restricted carbohydrate diet.

A pronounced acidosis complicating any surgical or medical disease is a distressing condition. Slight degrees of acidosis may be well borne, but should always be considered detrimental to recovery. As previously stated, a restricted carbohydrate diet tends to bring on an acidosis. Starvation causes it. It frequently happens in prolonged fevers that the patient is, for all practical purposes, starved; being especially restricted in starches and sugars. The development of acidosis is a natural consequence. This may explain the recent greater success in treating fevers by feeding the patients liberally rather than by starving them. Roth and Henderson state that practically all major surgical patients show some degree of acidosis as determined by the urinary findings and the carbon dioxide tension of the alveolar air.

Crile says that "the acidity of the blood is always increased by muscular effort, emotional disturbances, surgical shock, infections, asphyxia, and inhalation anesthesia. A certain amount of acidity," he says further, "is incompatible with life. At the point of death the blood is always acid." He then proceeds to ask "Is not the acidity the actual cause of death?" and he answers his own question by the significant statement, "I think it is." We know that Crile has been criticised by a great many medical leaders as having rather overdrawn his clinical conclusions from imperfectly and incompletely conducted laboratory experiments, but such a statement as the above coming from such an earnest investigator of some of the very obscure metabolic disturbances, should be seriously considered.

Any one who takes the care of a surgical patient into his hands, should have, in addition to a certain amount of training in surgical technique, an appreciation of the medical aspect of his case and be familiar with certain lines of symptoms, which make his patient a poor subject for the operating table. The surgeon may have made an accurate diagnosis of a condition requiring surgical interference, but he may have failed to notice that the patient has a certain amount of tachycardia on slight exertion and a tendency to dyspnœa; that he has an unusual fear of the operation; that he complains of frequent headaches, vertigo, and an unaccountable mental depression; that he has a fruity, sweetish odor to his breath, and that his urine is highly acid and contains either acetone, diacetic or beta-oxybutyric acid. These are the most frequent symptoms of an acidosis and may have been brought on by a diet poor in carbohydrates, by previous prolonged febrile conditions, or by a digestion disarranged by some existing pathological conditions.

Perhaps we may say that the most frequent and noticeable symptom of acidosis is an increased

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respiratory rate, or hyperpnœa. This associated with a fruity, or as some say a rotten apple odor, to the breath, should lead one to suspect acidosis and cause one to make a further examination of the patient.

Especially in children should hyperpnœa and a sweetish odor to the breath put one on his guard. The discovery of an acidosis, complicating some other condition, and the institution of a proper treatment for the acidosis, is often a determining factor in the death or recovery of the child. This is a matter not related to the subject of my paper but I cannot pass it without comment, as I feel it is a point often overlooked.

We will suppose that a patient with a mild or moderate degree of acidosis comes to the operating table with the condition unrecognized. What happens? The patient resists the anesthetic after the manner of an alcoholic, although we know he is not one. He vomits frequently and persistently after the operation. He suffers an unusual amount of post-operative pain and does not bear an opiate well. His pulse is rapid and often irregular. His temperature may go up for no accountable reason. He is nervous, and finally his convalescence is prolonged beyond the usual period, although he may finally recover completely. Recovery is the rule in these cases, but the patient may not be so fortunate. All of the above symptoms may be exaggerated and after twelve to twenty-four hours of persistent vomiting, rapid pulse, rising temperature and more or less delirium, the patient, having never come completely out of the anesthetic, dies.

An accurate diagnosis of the patient's pre-operative condition would have placed the surgeon in a position to have fore-stalled the above happenings, by correcting the patient's abnormal metabolism. He could have been placed in a condition to have with-stood a general anesthetic and surgical operation.

The diagnosis of acidosis may be suspected clinically as outlined above, but its accurate determination is left for the laboratory. However, the process is not difficult. It involves an investigation of the urine and a determination of the carbon dioxide tension of the alveolar air.

In regard to the urine, the degree of acidity is not important, although it is always high. Ammonia is the neutralizing substance for all acids of the urine. Therefore a determination of the ammonia content is necessary if you want to know the actual degree of acidity. However, it is not so much the degree of acidity of the urine which is important, as it is the amount of alkali which is required to be ingested in order to reduce the acidity or to render the urine neutral. This point is important and is spoken of as the "alkali tolerance." The urine is also examined for acetone, diacetic and beta-oxybutyric acids. The ferric chloride test is the one most frequently applied. The detection of acetone alone is not an indication of acidosis. The appearance of diacetic and beta-oxybutyric acids mark the onset of the acidosis. Acetone is its precursor.

However, Roth and Henderson say that the estimation of the carbon dioxide tension of the alveolar air is the most accurate available method for the recognition of acidosis and the measuring of its intensity. Others support them in their view. The principle for this finding lies in the fact that a decreased alkalinity of the blood is always marked by a decreased carbon dioxide tension in the alveolar air.

Theoretically acidosis is determined by the following:

1. A lowering of the carbon dioxide tension of the alveolar air.
2. An increase in the hydrogenion concentration of the blood serum.
3. A diminution of the alkali reserve of the blood serum.
4. An increase in the amount of injested alkali required to render the urine alkaline—the so-called alkali tolerance.
5. A diminution of the oxygen combining power of the hemoglobin.

It is unnecessary for me to state that the determination of all these factors is a matter outside the realm of the ordinary practitioner or even the man with fair laboratory facilities. However, one of these factors can be determined fairly easy, and that one is the first—namely, the determination of the carbon dioxide tension of the alveolar air. Only about a year and a half ago it was predicted in one of our leading medical journals that apparatus would in time make the determination of the carbon dioxide tension a routine procedure. The prediction has already come to pass. In the Journal of the American Medical Association of May 20, 1916, Harriet gave a simple method for the determination of the carbon dioxide tension. It is unnecessary for me at this time to go into the details of the process. Suffice it to say that the method is simple, reliable and not too complicated or prolonged to be carried out by a surgeon or laboratory man in any well equipped hospital. It is already being done as a routine procedure in a few hospitals. The apparatus and solutions for the test can be obtained from a well known biological house for the sum of five dollars. It is indeed fortunate that the determination of the carbon dioxide tension is the most accurate method of determining

acidosis. It is more accurate than the determination of the acidity of the urine and the presence of the ketone bodies.

The treatment of acidosis in a surgical patient varies according to whether the condition has been discovered by careful questioning and examination of the patient prior to the operation, or has forced itself on the surgeon's attention after the operation is over and the damage done. Occurring as a pre-operative condition, it is the duty of the surgeon to correct the patient's faulty metabolism by a diet rich in carbohydrates and poor in fats; by the giving of occasional saline purgatives and the administration of alkalies, such as sodium or potassium citrate, potassium acetate or sodium bicarbonate, in such amounts that the urine is rendered alkaline or neutral within a day or two. The amount of alkalies is then reduced to just enough to maintain that condition of the urine. The underlying condition producing the acidosis should be corrected as far as possible. Water is given in liberal quantities and the patient urged to take frequent warm baths. Such measures usually cause the acidosis to clear up in a short time.

When the acidosis occurs as a post-operative condition, the indications for treatment are more urgent. Sodium bicarbonate is given in solution (4 per cent.) by the rectum, according to the Murphy drip method. In cases of extreme urgency, it may be given intravenously. Fischer advises giving intravenously a solution containing 14 grams of sodium chloride and 10 grams of sodium carbonate in 1000 c.c. of water. Five hundred c.c. of this is given twice a day. Crile advises the use of epinephrin, which, he says, if injected in sufficient quantities, controls the acidosis. The use of alkalies is continued throughout the convalescence in sufficient quantities to keep the urine alkaline or neutral. This is done in order to ward off a recurrence of the attack. The patient is fed liberally of carbohydrate foods with a restriction of fats. In fact, it may be advisable to feed all post-operative patients more liberally than is the present custom. The starvation undergone by some patients after a serious operation may be a factor in determining the onset of a latent acidosis. When the patient does not retain food by the mouth, a glucose solution can be given per rectum.

In closing my paper, I would like to emphasize the facts, that an acidosis always aggravates a concomitant condition; that it interferes with convalescence and lowers vital resistance. It is well to bear in mind that the power of resistance in health, as well as in disease, seems to run parallel with the power of the individual to retard or ward off acidosis.

A PLEA FOR THE EARLY DIAGNOSIS AND SURGICAL TREATMENT OF GALL-BLADDER DISEASE*

L. C. Kern, M.D., F.A.C.S., Waverly

At the outset of this brief paper, I wish to say that by the term, Gall-Bladder Disease, I embrace all infectious processes of that organ including gall-stones and new growths.

It has been evident to all careful observers during the past few years that we have not been standing upon firm ground in the treatment of these cases.

Some statements that I may make may seem a bit radical but if so I think the means justifies the end.

At the present time all well informed physicians and surgeons practically have the same opinion in the treatment of the appendix in its various diseased conditions. There was a time, however, in which the battle raged fast and furious as to when the operation should be done; if done at all—whether Ochsner's so-called starvation treatment had, or had not a place in the treatment, but now such men as Ochsner, Deaver, Robert T. Morris, J. B. Murphy and other noted surgeons, differ little in their method of procedure in these cases, so we all feel in cases of appendicitis that for all practical purposes the best time to operate is the first time that a positive diagnosis of appendicitis can be made. I merely speak of appendicitis as an illustration of the changes in medical thought that we are now going through in the question of gall-bladder disease.

There was a time when some few otherwise bright medical men held to the opinion that appendicitis might be successfully treated in a medical way. I assume that today none such exist, except a few quacks.

For all practical purposes we may assume that gall-bladder disease is an infection of the gall-bladder by bacteria, causing a cholecystitis, with or without gall-stones, and later the formation of new growths, including cancer and sarcoma.

This definition, I do not pretend is scientifically correct, but sufficiently so for the purpose of our discussion. When our secretary asked me to write a paper for this meeting, at first I was at a loss to know what I might say that would be of interest to this Society, but later in the fore-

*Read before the Austin Flint-Cedar Valley Medical Society, Iowa Falls, Iowa, July 11, 12, 1916.

BE ONE OF A 1,000 TO REGISTER AT DES MOINES, MAY 9, 10, 11

noon after reading the invitation, I had an experience which impressed me so much that I decided to say a few words on the subject of my paper.

In order to be brief and bring before your minds the meat of my topic, it will be best to cite the histories of one or two cases illustrating why I make this plea.

Case 1—Mrs. C. S., age fifty-seven; white; married.

F. H.—Father dead, seventy, paralysis; mother dead, eighty, general debility; had six brothers, two living and well; one brother died of heart failure at forty-four; one of pneumonia and four in infancy; two sisters; one died of dropsy; one living and well; no cancer or tuberculosis in family.

P. H.—Well as girl; never sick; married at twenty-four; six children; all living; no miscarriage; states that except for cramps in the stomach which occurred twenty-five years ago, covering a period of one or two years, that she has never been sick, except spells of short duration; diagnosed as indigestion and bilious attacks; claims never to have been jaundiced.

P. I.—When examined May 23, 1916, at her home, I found her to be a fairly well nourished woman with clear skin, not in the least jaundiced; was up and about the house and stated that her present trouble began about one year ago. Complaint: gas in stomach, sour eructations but little vomiting; some distress after meals; constipation present; slept poorly due to more or less pain at night. Lungs, heart and kidney secretions normal.

P. E.—Large mass size of naval orange could be made out over region of gall-bladder; temperature 98½, pulse 108.

Diagnosis—Gall-stones with empyema of the gall-bladder, or malignancy. Advised removal to hospital for exploratory laparotomy for removal of gall-bladder if possible. This advice was accepted and on opening abdomen we found a large carcinoma of the fundus of the gall-bladder with numerous cancerous nodules in the right lobe of the liver. The gall-bladder had numerous calculi. The carcinoma involved the fundus of the gall-bladder with no involvement of the cystic duct. Undoubtedly this woman had been carrying these gall-stones for the past twenty-five years and had her case been properly diagnosed and the gall-stones removed, the most potent factor in the cause of her malignancy would have been removed.

Again, one year ago at the beginning of her present symptoms, her gall-bladder trouble had been diagnosed and the gall-bladder removed. She would have been cured but her only opportunity to be permanently cured, was lost.

In the President's address before the American Surgical Association, 1915, President Wm. J. Mayo has this to say on the subject: "The Prophylaxis of Cancer."

In nearly all the cases of cancer of the gall-bladder which we have had opportunity to examine carefully, gall-stones were either present or there was evidence to show that they had been present. One is impressed with the collateral evidence that the incidence of gall-stones and cancer of the gall-bladder shows the same increased frequency in the female over the male. Can we doubt that the early removal of the gall-stones might prevent cancer of the gall-bladder?

The mortality of an early operation for gall-stones, other things being equal, is less than one-half per cent.; cancer of the gall-bladder occurred in nearly three per cent. of all the cases of cholelithiasis which came to operation in our clinic. We have had no permanent cures after cholecystectomy for cancer of the gall-bladder which had been diagnosed as such previous to operation.

A number of cures had followed the removal of early cancer incidental to the removal of thick walled functionless gall-bladders, thus showing that it is not the nature or the situation of the malignant process, but the delay in diagnosis which is so fatal.

We all feel that the above quotation comes from a master in our profession, whose clinical and operative experience gives him the right to speak with authority.

To further illustrate my point from my own personal experience, I wish to very briefly mention two other cases of cancer of the gall-bladder and liver that have come under my observation in my work in Mercy Hospital during the past twelve months.

Case 2—Mrs. R., Shellrock, age fifty-eight; a well nourished, healthy appearing woman, weighing about 175 pounds, with an excellent family history and no disability except a chronic arthritis, was brought to hospital by her family physician. He stated that for the past six or eight months there had been some distress in stomach after eating, some feeling of distention and belching of gas, with occasional vomiting of sour material, some constipation with rather infrequent sudden colicy pains.

These pains were followed with slight jaundice in most instances. Operation done with removal of twenty fair sized gall-stones and drainage of gall-bladder for three weeks. We found at the time of the operation, a rather hard nodule about the size of an English walnut in the head of the pancreas. Her husband was told that there was a strong probability that this nodule might be cancerous. Such, unfortunately, was true. She made an excellent recovery from the operation and enjoyed good health for about four months, but died from the cancer within nine months of the operation.

Now her history shows from the story I gleaned from her, that she had been treated at different times during the past eighteen years for so-called dyspepsia or indigestion, when in fact we know her trouble all came from her gall-stones. It is true that she did not have the classical severe colic followed

by jaundice but at the present time we do not wait for such evidence to make a diagnosis of gall-stones.

Case 3—Mrs. H., Nashua, age fifty-four. Mother of several children; a healthy woman except for the disability of which I will now speak. "I have taken a barrel of medicine for dyspepsia and indigestion," she said to me when I first saw her with her family physician. He had made a diagnosis of gall-stones, but from her deep jaundice we were afraid of a possibility of a common duct obstruction or malignancy. We removed about sixty gall-stones, and as in the previous cases cited, found the same hard mass in the head of the pancreas and have the same story to relate, death occurring in less than nine months. Failure to remove these stones years ago, undoubtedly caused her malignancy.

In the June number of Murphy's Clinics of 1916, Murphy says:

Cancer of the gall-bladder is the sequence of frequent irritations; but cancer of the gall-bladder is such a rare disease in proportion to the number of gall-stone cases, that if the stones are the etiologic factor, it is surprising they do not produce this evil result more frequently.

Dr. Rodman says, quoting from Murphy's Clinics, October, 1913.

I am willing to be convinced and admit that there are many reasons for thinking that the disease may be of parasitic origin. But this much is certain, entirely beyond the realm of speculation, and therefore should be kept constantly before us, viz., that continued irritation resulting in chronic inflammation of an epithelial surface, practically always precedes cancer and is therefore the predisposing cause. Such conditions, in elderly subjects particularly, are a perpetual menace to their hosts, and demand, as we have already said, surgical interference. It is better to prevent than cure any disease, and true as it is of all other affections, it is most true of cancer.

A quotation from Rolleston is as follows:

Special interest attaches to the association of gall-stones and carcinoma of the gall-bladder, inasmuch as the calculi are generally thought to be the cause, whether by direct irritation or otherwise of the neoplasm. In Musser's 100 cases they were present in 69, and in only three instances was cholelithiasis definitely stated to be absent. Winton estimated they were present in 81 per cent.; Zenker in 85 per cent.; Courvoisier in 91 per cent.; Seigert in 95 per cent.; Schroeder estimated that 14 per cent. of persons with cholelithiasis eventually became the subjects of carcinoma of the gall-bladder, and in 141 cases of gall-stones there were twenty of primary carcinoma.

I will not tire you more with other quotations from authorities. In considering the histories of the three cases given, it seems fair to conclude that in each case there was a time when diagnosis of gall-bladder disease with calculi should have been made and proper surgical intervention advised to the end that, first, these patients should have been saved the sad fate of long continued ineffective medical treatment based upon an improper diagnosis. Second, that we have good reason to suppose that the early drainage of the gall-bladder and removal of the stones would not only produce a permanent cure but be an absolute bar to the malignant condition from which all three died.

To requote just one sentence from Mayo, "Can we doubt that early removal of gall-stones might prevent cancer of the gall-bladder?" It is a sad comment on the medical profession today that literally hundreds of patients are "swilling" down gallons of skillfully advertised nostrums put up by pharmaceutical houses and handed out by smooth tongued representatives who seek to advise the unsuspecting practitioner to use these worse than useless remedies, "because the 'House' says they are good and because he has recently sold 'Dr. So and So,' a five gallon order."

It seems to be up to the medical profession to get busy and make an early and proper diagnosis and in these cases advise the proper surgical procedure whether it be drainage of gall-bladder and removal of the stones or removal of gall-bladder. That is a matter to be decided by the operator.

It has been apparent to many of us that the surgery done has not been absolutely satisfactory as regards the gall-bladder and bile ducts. C. H. Mayo in a paper read before the Southern Surgical and Gynecological Society in 1915 said:

After the many years in which operations have been done on the gall-bladder and ducts, it would seem that our knowledge of the pathologic conditions, the indications for medical treatments or for surgery would be quite settled. Medical treatment, though apparently fairly successful in cholecystitis, which has a periodic recurrence of symptoms, yet has often led to delay and later operations for secondary complications. Instead of general progress in surgery, secondary operations for diseases of the gall-bladder and ducts have become so frequent as to be a subject of comment and many who suffer from such disease delay operation knowing that, while the percentage of cures are high, there are failures and other operations may be necessary.

An investigation of the 370 cases of disease of gall-bladder and ducts coming to operation in our clinic during four months, from July to November inclusive (1915), showed that forty-eight (13 per cent.) patients had already been operated upon for these various conditions. It was also noted that the majority being women, naturally there had been many previous operations, such as removal of the appendix, of the ovary, and fixation of the right kidney.

Nevertheless, considered all in all, gall-bladder surgery has made great progress during the past twenty years. Culled, as most of the cases were in the early period, from diseases of the stomach, it is found that the condition is a common cause of the reflex irritation, vying with the appendix in creating gastric symptoms.

Early in this period the operations cholecystotomy, cholecystostomy, cholecystectomy and drainage of the ducts were developed. Too often only advanced cases were diagnosed, and secondary complications of infective disease of the ducts and pancreas led to a high mortality. Thus the surgery of this region suffered for a time from a vicious circle: late operation and complications gave a high mortality, while the high mortality led to delay. Through improved technic and a study by sight of the progress of the disease in the living, the operation, usually cholecystostomy, became a safe procedure and resulted in a large percentage of cure patients with many others improved.

In one of the 1916 Illinois Medical Journals, G. U. Collins states that he sent letters to 147 patients who had recovered from cholecystostomies, asking if they had had any trouble with the gall-bladder or stomach since the operation. In all, 102 replies were received; seventy-four said they had been perfectly well so far as the gall-bladder and stomach were concerned; fifteen complained of some pain in the gall-bladder or stomach, or both, while thirteen complained of still having severe pain at times in the region of the gall-bladder or stomach or both.

These references are sufficient, I think, coupled with the experience of every one present today, who does operative surgery, to prove that there is room for better end results in cases of gall-bladder disease than we have gotten in the past.

I. Boas says, quoting from the International Abstract of Surgery:

> There are no medicines that will directly prevent the recurrence of attacks of cholelithiasis. It is just as absurd to suppose that cholagogues will cause the already existing stones to be discharged or prevent the formation of new ones as it is to suppose that gall-stones can be dissolved by chemical agents; but attention to diet and certain stomach conditions may aid in keeping the gall-stones trouble latent.

What Dr. Boas says agrees with my own personal experience and belief. I am convinced that gall-bladder disease as defined in the beginning of this paper, is always a surgical disease and should be treated accordingly.

The prognosis of our cases of gall-bladder disease must then rest upon the early diagnosis and correct surgical treatment.

An acute infection of the gall-bladder may be due to gall-stones or it may depend upon direct infection of the organ with or without the invasion of other organs. Once diagnosticated and treated early surgically, recovery is the rule. The fact of the association of the gall-stones and cholecystitis with metabolic faults, is said to be frequent.

Diabetes, gout and rheumatoid arthritis are among these, but statistics concerning diabetics, recently collected, are not absolutely convincing.

With malignant disease, the occurrence is strikingly frequent. The search made by gynecologists at the time of abdominal operations, unearthed the presence of a large number of gall-stones with other conditions in which there are often disturbances of the internal secretions.

> My experience justifies the conclusion that gall-stones, while they give rise to no symptoms in many cases, are never to be considered harmless.

The above quotation from Elsner (Monographic Medicine) shows there are other reasons for the early diagnosis and surgical treatment of gall-bladder disease besides the major reasons given in the body of this paper.

Summary—First—Gall-bladder disease is not diagnosed sufficiently early. In many cases of cholecystitis and gall-stones, the patients are treated for some other malady based upon a faulty diagnosis. If surgical treatment is given, the operation has been so long delayed that the best results are not obtained, and while our percentage of cures is great, the complications arising from delay make the end results, in many cases, undesirable.

Second—Infections of the gall-bladder, with or without gall-stones, is always a surgical disease.

Third—Many of the metabolic faults and secondary infections such as rheumatism, may have their origin in the gall-bladder.

Fourth—Cancer of the gall-bladder is clearly proven to be associated with a chronic irritation of the gall-bladder due to gall-stones with a probable infective agent as a further cause.

Fifth—By an early diagnosis and proper surgical treatment we will prevent many of our patients from having secondary infections from improper medical treatment or delayed surgery. That we will prevent the most potent operative cause known at this time as a causative agent in cancer of the gall-bladder.

THE TREATMENT OF PNEUMONIA*

R. E. Gunn, M.D., Deep River

In reading anew the subject of the treatment of pneumonia, one is reminded of the proverb "Much studying is a weariness to the flesh and of the making of books there is no end!" Considering the comparative agreement of men of note about what should be done in a case of pneumonia; considering the length of the program and the eminence of some of the men who are on it and considering the high degree of intelligence of those here assembled, I have conscientiously tried to make these remarks brief and to the point trusting my confreres to freely add or correct. No attempt will be made to discuss all the time worn fads, methods or drugs. It is our purpose to briefly discuss such measures as we are likely to find helpful, with here and there a hint as to what not to do.

It seems hardly necessary to emphasize the need of a careful examination at the first visit, not only because we may find a pneumonic breathing rather slowly, or a patient with tonsillitis breathing very rapidly, and because we need to know the location and extent of the lesion, but also because if such an examination is not made, we cannot command the confidence of the patient and the patient's friends. One of the things we shall surely need is the absolute confidence of the entire family, if possible, that we may secure hearty co-operation from each one, and so help win in the fight for a life. Having made the diagnosis and assured the anxious family (they usually are anxious) we institute a routine of treatment, and if possible, secure a trained nurse. She will be a sure help to the attendant in getting results.

In the first place she will help him assure the family that a flood of zero air from outside will not cause the patient to take cold, provided he is under cover, as he is more likely to be, if he can get his breath easier, and is calmed by the soothing influence from God's great out-of-doors. If he is put in a porch or a room with plenty of windows, care being taken to avoid a direct draft on exposed parts, we note blood-pressure go up and rate of pulse and respiration come down. In some cases the air should be warmed to 65° F., but not many need it. If such a need exists, it becomes evident by reason of increased coughing. Usually there is less coughing in the open air. If one happens to have a case in the summer time, an electric fan should be used if current is available. It should be so placed as to cool the patient and change the air in the room.

Often the relatives do not or cannot keep the patient and bed in a sanitary condition. The nurse will do so very effectively. Often they cannot even move the patient, because of the pain over the area of pleuritic infection. The nurse will move him occasionally as seems best. One should remember that the patient will select the most comfortable position, but usually it should be varied a little to avoid hypostatic conditions. All sputum should be burned. Isolation should be practiced as far as possible. It is desirable that a flood of sunlight get into the germ ladened bed and room once a day. Visitors are sometimes a positive menace and seldom ever helpful. The attentions of an over-anxious friend or relative are a great strain on the nervous mechanism and so to the whole organism. The doctor must have a heart-to-heart talk with such a one. In fact the doctor who treats pneumonics needs not only a nurse, but he himself must be on the job and ever alert, or something may happen when he is not expecting it.

The patient is usually thirsty. He should be encouraged to drink freely. Water is the best diuretic. A normal saline once or twice a day will further encourage drinking of water and diuresis, so will rather frequent sponging with tepid water, or warm water in some cases,—especially in cases with concomitant nephritis. In nephritis with almost complete anuria, I have seen warm sponging every two hours—the room being warm during the bath and the other hydrotherapeutic measures just mentioned being in progress—start the urinary function in a very satisfactory manner. In fact, so far I have never seen it fail.

Diet for a case of nephritis will not be very far wrong for almost any case of pneumonia.

Probably every case should have gentle catharsis in the beginning, repeated as needed. The diet should be liquid and as nourishing as possible if digestion will permit.

Usually the first thing demanded by the patient is relief from his pleuritic pain. Some will be relieved by an ice bag, which is also good for the nervous symptoms, if well-borne, but the opposite if not well-borne. Some will be helped much more effectively by a continuous one-in-six mustard plaster, some by a powerful liniment, some by strapping, and some will absolutely require morphia. Both ice and morphia are poorly borne if there is nephritis. If the kidneys are in good condition, a little morphia in the first part of the disease will do no harm at a time when pleurisy is most troublesome. With the restrictions just

*Read before the joint meeting of the Poweshiek and Keokuk County Societies August 8, 1916.

named, morphia can be used to advantage when there is persistent insomnia and apprehension which are not sufficiently controlled by sponging, alcohol rubs, camphorated oil massage, suggestion, fresh air, quiet and expectorants in case of a nagging cough. Not every pneumonic needs an expectorant from the beginning. Each of you are used to certain ones. Forcheimer prefers golden sulpheret of antimony in divided doses for adults usually; Anisated liquor of ammonia with two to five drops of paregoric for children. If expectoration is excessive, compound tincture of benzoin with sugar. If there is a dry hacking cough from laryngeal and tracheal irritation, ammonium chloride and codeia. Tincture of sanguinaria with cherry laurel water is in order when the cough comes from tracheal and laryngeal engorgement at the beginning of convalescence.

Every severe case of pneumonia is a case of cardiac toxemia. The hydrotherapeutic measures mentioned under general treatment are the first instruments to be employed against this greatest of all dangers incident to pneumonia; because, without doing a particle of harm to the organism, they greatly hasten the elimination of toxins and exert a decidedly quieting influence on the central nervous system. The normal salt and water combination keeps the blood stream up to a volume which the heart acts on efficiently. These measures are sufficient in most cases. If the cardiovascular system is becoming fagged, caffein may be employed in one to four grain doses of the sodium benzoate salt, every four hours. It adds to the diuresis already produced by the hydrotherapy and tones up the entire vasomotor and nervous systems. It may even be taken in the form of black coffee by mouth, or the coffee may be added to the normal saline at such a time as the latter is administered. If in spite of the hydrotherapy, and caffein given to the verge of excitation, there is cyanosis of the finger tips and a blood pressure in millimeters of mercury lower than the rate of the pulse in beats per minute, one can give fifteen drops of the fat-free tincture of digitalis every four to six hours. If the case is very urgent, one may precede the first dose with an ampoule of Boerrenger's strophanthin intravenously, or adrenalin, or three to five grains of camphor in 20 per cent solution in olive oil and a little ether. The only contra-indication to digitalis is a previously diseased and degenerated myocardium and even then we will use it if we are losing in spite of other measures. If the case is very urgent, one may every fifteen minutes give the following diffusible stimulant:

Compound spirits of ether.
Aromatic spirits of ammonia.
Compound spirits of lavender.
Tincture of valerian; ā ā 15 gtts.

If the stomach doesn't tolerate food or food is not assimilated, one may give a small dose of alcohol every half hour, with the above, when due. It furnishes fuel to run the machinery. It must be used in the case of one drinking right up to the date of onset, but not at all in the case of one who has drank and then has abstained for a long period. If the venous system is badly engorged, venesection may be employed. Blood-pressure above 150, in the start, with a slow pulse, should be lowered soon; for all too soon the heart will tire under the excessive load and the pressure will become very low with a fast pulse. That condition, combined as it is with degenerated kidneys and hardened arteries, is very formidable. You have noticed no mention of strychnin. It may be of some little aid in adding to the efficiency of digitalis by raising the susceptibility of the organism to digitalis; but I do not like large doses of strychnin, because of the nervousness they often produce, without adequate return in work output. It causes discharge of energy to no purpose. Conservation of energy is needed in this case.

There has been much unnecessary fear of the crisis. Absolute rest, assurance, heat to the extremities and a cup of hot coffee are usually all that are needed.

Serums and vaccines have been used and success has been claimed for them. Their use is limited. A serum may do good when there is a low leucocytosis. A vaccine may stimulate a chronic unresolving case to decisive action. Rosenow's autolyzed pneumococci are said to be of decided benefit if used early. Leucocytic extract is said also to be of benefit if used early.

In general, endocarditis and pericarditis occurring in pneumonia are treated the same as when they occur in the course of other diseases.

Pleural effusion not absorbed should be aspirated.

Empyema should be drained very early and very freely.

Gangrene of the lung cannot be benefited by anything, but deodorant inhalations are comforting to the patient and those who must be in the room.

Abscess of the lung should be drained if it is fixed to the chest wall. If it is not fixed, I would wait a little.

In the period of convalescence one must remember the need of rest for the myocardium for at least three or four weeks. The patient must be cautioned against too rapid return to full work.

Massage of the chest and deep breathing help. Nourishing diet is essential. Tonics are not infrequently of service.

REPORT OF AN INTERESTING THROAT CASE COMPLICATED BY MASTOIDITIS*

C. F. Howland, M.D., Des Moines

My only reason for presenting this case for your consideration is, if possible, to learn the experience of others, who may have been so unfortunate as to encounter a similar condition which to me at least was a very trying ordeal.

In November, 1913, I removed adenoids from Miss B. aged five years, but felt there was no real indication for disturbing the tonsils. On November 15, 1915, I was called to see Miss B. with her family physician who had been treating her for a period of ten days for a supposed tonsillar infection which he felt was not improving as rapidly as he would like. Examination of the throat showed very little inflammatory reaction and seemingly nothing in the crypts of the tonsils. There was, however, a post-tonsillar swelling which forced the tonsil forward and inward to a plane normally occupied by the uvula. There seemed to be fluctuation, but no pulsation, temperature at the time of first examination being 101½, pulse running 110. No blood count had been made. At this time she was complaining of some considerable pain in the region of the ear on the same side. Inasmuch as there had been no particular change in her condition for at least forty-eight hours, I advised opening the throat under an anesthetic because she was a very nervous child. Under an anesthetic we opened the throat and all that was found was a considerable amount of black clotted blood mixed with some bright red blood. The lack of the inflammatory symptoms which are usually present in a post-tonsillar abscess made me careful about going deep, and inasmuch as the patient was asleep, I felt my way very carefully, but was disappointed in not finding anything but a considerable amount of black clotted blood, at least not being able to determine the presence of any pus. In about thirty minutes after opening the throat, I received a call from the nurse stating that the patient had had a severe gushing hemorrhage which she said only lasted about five minutes. The patient seemed to have no more trouble and was reasonably comfortable for the next thirty-six hours, when I received another call stating that she was again bleeding. I immediately called at the home and found that she had had a hemorrhage from the throat about as severe as the first which had checked spontaneously, the nurse thought in about five minutes. She was surprised to find at this time that there was considerable oozing of bright red blood from the external auditory canal on the same side, which continued for at least one-half hour after I reached the home. Cleaning the ear and using astringents or attempting to pack the external canal seemed to have no effect upon checking the hemorrhage. These hemorrhages from the throat were always followed by a hemorrhage from the ear, continuing every thirty-six to forty-eight hours until she had had five hemorrhages.

The second day after the last hemorrhage from the ear, she began to have a slight discharge of pus which continued for a period of four or five days when she developed pain in the mastoid. We were obliged to do a simple mastoid operation which proved nothing unusual. About the sixth day after the operation she developed an acute otitis of the other ear which subsided in a very short time. The blood count made at the time of the mastoid operation showed nothing unusual. The smears made from the pus from the ears showed the streptococci and staphylcocci with a few pneumococci. The patient made an uneventful recovery after the mastoid operation. I might add that her personal history so far as previous tonsillar troubles are concerned, was nill. My thought was that I surely was dealing with an erosion of possibly a branch of the tonsillar artery.

Discussion

Dr. L. W. Dean, Iowa City, Iowa—I have been very much interested indeed in this very exact and comprehensive report of a very rare and interesting case. A case similar to this was reported in 1891 in the Birmingham Medical Review. Ten days before the patient was seen, he had an attack of quinsy. Two of his sisters in the house were at the same time ill with bad throats. Three days before admission he had a profuse bleeding from his mouth and nose. There were several similar attacks. On the day before his admission, some swelling was noticed in his left carotid region which was supposed to have been an infected gland. At the time of the rupture of the carotid, the patient had a mild degree of cervical adenitis. The next day the patient had a very strong pulse with a slight hemorrhage from the left ear and the nostrils. There was an ill-defined swelling on the left side of the face and neck. The left ear was pushed outwards by the swelling and the anterior meatus bulged into its cavity. The skin over the swelling was inflamed and the whole swelling pulsating synchronously with the heart beat; the left tonsil was pushed beyond the midline; the soft palate bulging on the left side. No

*Read before the Sixty-Fifth Annual Session, Iowa State Medical Society, Section Ophthalmology, Otology and Rhino-Laryngology, May 10, 11, 12, 1916, Davenport.

bruit or thrill could be detected. In about four days the patient died. Postmortem examination showed that the patient, during the attack of tonsillitis, had developed an abscess in the neighborhood of the internal carotid artery which had eroded the wall of the artery, resulting in the production of a false aneurysm which had eventually burst. Doctor Holmes, at the meeting of the Triological Society, recently reported three cases of rupture of the aneurysm in the neck, all with symptoms simulating those of Ludwig's angina. The cause of the swelling in each of Doctor Holmes' cases was the rupture of an aneurysm. In my judgment, in Doctor Howland's case there was a cervical cellulitis which eroded the wall of the tonsillar artery, or perhaps even a larger artery, with the production of a false aneurysm which ruptured and later was closed.

RESPONSIBILITY IN SUDDEN DEATH OF PREGNANT WOMEN UNDELIVERED

This question is considered in the American Journal of Obstetrics, volume lxxiii, page 1046 and 1051. Dr. Harrar contends that it is the duty of the attending physician to produce postmortem delivery if the fetal heart is still beating, either by version, forceps or Cesarean section, for undoubtedly a certain number of infants can be saved. Obviously the greatest number will be saved by Cesarean section on account of the more speedy delivery. Dr. Harrar gives the results of the Lying-in-Hospital of New York City. In 91,600 pregnancies at or near term, there were fifty women who died undelivered, mostly within an hour after admission, and some while being taken in. In nineteen of these cases, postmortem delivery was effected; seven times version was done, all the children being still born; by low forceps, one child was saved, and one by breach extraction; ten were delivered by Cesarean section; three were still born. In seven of the infants, the heart was beating when delivered; of the ten born by Cesarean section, two lived to leave the hospital. Some details of the failure in the other cases are important to consider. The fourth mother died in the ambulance and twins were extracted alive; a postmortem version had been attempted and failed and a Cesarean section performed. Both infants died twenty minutes after birth. In three other cases, the children had beating hearts, but were not resuscitated. In another case (the woman dying from tuberculous meningitis) the child died six days later of pneumonia. In most of the failures, death of the infant may reasonably be attributed to delay in performing section. The operation should be immediately after the death of the mother, more than five minutes offers but little hope. Dr. Harrar says that consent of the husband or family should be obtained, if possible, but if it cannot be obtained immediately, Cesarean section should be done without consent. Dr. C. S. Bacon, of Chicago, in a paper published in the Journal of Surgery, Gynecology and Obstetrics, a few years ago, (reviewed in an early number of this Journal) says "that the operation of postmortem Cesarean section is legal without consent; that the right of the husband to the custody and control of his dead wife's body does not go to the extent of preventing disposal of it as may be necessary to keep it from injuring another human being," and presented legal authority in support of the viable fetus' right to live.

In another article on the subject in the same journal, page 1051, Mr. George W. Whiteside points out the obligation of the medical attendant in relation to postmortem Cesarean section for the purpose of saving the child. Mr. Whiteside states that there is no court precedent, but offers the following legal opinion.

> Inasmuch as our statutes are interpreted in the light of scientific progress, what might not have been considered as culpable negligence half a century ago, today would be gross culpable negligence. This principle is well founded in precedent and has found expression in cases where safety devices of recent invention readily available but unheard of and unknown half a century ago, are omitted from use by those upon whom responsibility for their use rests; and when a human life is sacrificed through such failure and neglect, the courts have considered such omission as constituting culpable negligence and have held those responsible therefor upon a charge of manslaughter in the second degree.

The Annual Medical Clinic, College of Medicine, State University of Iowa, will be held on April 17 and 18. Dr. Elliott P. Joslin, Assistant Professor of Medicine, Harvard Medical School and author of a book on the treatment of Diabetes Mellitus, will be the guest of the University on this occasion and will give a lecture on "The Care of the Diabetic Case by the General Practitioner." Coming from one who has done so much research into the cause and treatment of this disease, this lecture will be of unusual value to the profession.

Clinics in medicine, surgery and the medical and surgical specialties will be given during the two days. These clinics will be conducted by the clinical staff of the College of Medicine and are open to all physicians.

The clinical faculty cordially invite the medical profession of Iowa to be present.

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JUDGE HORACE E. DEEMER

The death of Judge Deemer removes a citizen that Iowa could not well spare. His place on the Supreme Bench can be filled; for well as he served the state as a judge, he served the state in a broader way than passing on law cases. The State of Iowa needs at this particular time, men of vision, men who can see beyond the expediencies of today and tomorrow; who can grasp broad social problems in a scientific spirit having thought for the history of the past and the logic of the future. It was not his thought to try a little of this and a little of that and see how it would work, but rather to grasp broad principles of social welfare and follow them to a logical conclusion. Judge Deemer was one of a small group of state officials at Des Moines who together with public spirited citizens were alive to the great possibilities of Iowa men—and women too—who sought to surround the capitol with an atmosphere of dignity and character which would have its influence on the men who came there to transact the serious business of the state, giving them a wider sense of their duties as makers and executors of the laws. Judge Deemer was not one of the men who believed that the greatness of a state could be measured by the number of bushels of corn it could produce nor by the price of hogs, but rather by the character of its people. With all the people's welfare in mind, he sought to improve their opportunities for knowledge. The great law library was the product of his efforts and no attorney—who has a title to such a designation—can fail of a feeling of pride when he visits the capitol in search of authority to support his legal contentions.

Judge Deemer was a close student of civic and political science in all that relates to true public advancement; to foster the highest conception of progress in all departments of civic welfare he devoted much time and thought to the development of the historical branch of the state library. His name will always be associated with this department. One of the efforts of the later years of his useful life was to develop a medical department of the state library. Judge Deemer, Johnson Brigham, Drs. Bierring, Pearson, Fay and Hill devoted much time to a plan to bring about so desirable an addition to public welfare. The first essential was an appropriation sufficient to secure a trained medical librarian and as rapidly as possible, secure expensive reference works on medicine and journals, which were beyond the reach of the medical practitioner of limited income. In this respect the medical profession has sustained a great loss in the death of Judge Deemer, who visited many medical centers to get the best ideas in relation to medical libraries. It is with profound regret we have to confess that the efforts of our two friends (Deemer and Brigham) have met with little encouragement at the hands of the legislature.

It would be a fitting testimonial of respect to the memory of Judge Deemer who devoted so much time and thought to increasing our opportunities for medical knowledge, if the profession of Iowa would join in an united effort to secure from the present legislature, the accomplishment of what he had so much at heart; a medical department to the state library.

THE LANCET-CLINIC

The Cincinnati Lancet-Clinic, edited by Dr. Martin H. Fischer, has ceased to exist. It naturally happens that when a very prominent member of the medical family dies suddenly, inquiry is made as to the cause of his death, and so here we have listened to the comments on the cause of the death of the Lancet-Clinic. Independent medical journals seem to feel that this loss to the medical profession has come from loss of advertising through the disturbing influence of the A. M. A.'s standards, and to the high cost of paper, and to the loss of subscribers caused by the increase of state association journals.

Journals of state medical societies express their regret that the Lancet-Clinic has ceased to exist, and explain the demise to decrease of revenue and to the fact that the journal had served its purpose, and logically has discontinued the ser-

vices that it has heretofore rendered the profession. There is something significant and worthy of serious consideration, when a journal of the high character of the Lancet-Clinic, and edited by so famous a member of the profession as Martin H. Fischer, with the valuable assistance of Dr. A. G. Krieder, formerly editor of the Cincinnati Medical News, recently merged with the Lancet-Clinic, should finally suspend publication.

The state journals were first organized for the purpose of publishing the transactions and papers of state medical societies and serve as an auxiliary to the Journal of the A. M. A., but it soon became apparent that the state journals should assume independent features, and become real medical journals, organized for the discussion not only of general medical subject, but also to consider many domestic matters that the privately owned journals were not in a position to take up. For instance, in Ohio there are many domestic matters that are of vital interest and importance to the profession that must be considered from the broad point of view of the relations of the profession to economic questions that should be brought home to every member of the state medical organization.

A careful consideration of the functions of the state society journal, must make it clear that the older plan of medical journal publication cannot well serve as a substitute. In the beginning when the state societies began to journalize their proceedings, contracts were made with private journals for their publication, but for obvious reasons, one state after another assumed the responsibility for its own publication.

A LIBERAL EDUCATION

(From the Nation)

Few subjects are more frequently discussed in academic circles than the apparent impossibility of interesting the average undergraduate in subjects beyond the range of his prescribed studies. For all the purposes of general culture the under-graduate leaves his alma mater very much as he entered it. The instruction which he has not sought, the college has not attempted to impart. He feels none of that broad interest in the important concerns of mankind which marks the educated man. Clear-sighted instructors may daily deplore the narrow intellectual outlook of their students, but what can the college do to broaden it? The teacher is limited to his schedule, and the student thinks he has no time for anything beyond his daily grind. At all events, he is indifferent to everything else, sporting matters alone excepted. Not many young men, indeed, glance even at the daily paper regularly. And so the college goes on turning out graduates, year after year, who cannot take part in the conversation of educated persons. They know little of the concerns of the present day, and the past bears no message to them. They have heard of but few of its great men, and only of such historic events and scientific or literary achievements as were directly connected with the subjects of their college studies.

Is it not the duty of the college to try to discover a remedy? Perhaps a partial remedy, at least, may be found to lead students back to the tried ways of their ancestors, to their love of good books, their veneration for great men and great deeds.

CONCERNING MANUSCRIPT FOR PUBLICATION

If every doctor had even a very limited experience as an editor of a medical journal, he would appreciate the trials and tribulations of one of the species. The greatest burden which an editor has to bear is caused by the carelessness of those who submit papers for publication. It is quite incomprehensible that a physician who considers that he knows enough to write a paper, should write it in language which is obscure, ungrammatical, and frequently not even English of a school boy sort. If the editor allowed some papers to be published without almost rewriting them, the journal would be a laughing stock among the profession. Often, too, when a paper has to be largely rewritten because of the involved sentences or lack of proper sentence construction, the author charges that his meaning was twisted. There is only one remedy for that situation. Let authors write their papers in correct English and they will have no cause for complaint against an editor.

An editor expects to read over every paper and put it in form for printing, but he should not be called upon to write the author's paper from the title to the conclusion.—(Wisconsin State Medical Journal.)

Something like the above we have had in mind for some time, but felt a little timid in saying it. As, however, one of our neighbors has broken the ice, we feel that we can express our approval of the above statement of facts. Many papers come to us showing not want of education so much as the want of care in preparing the papers for publication. If we should undertake to publish a photograph of a member that made him look as ridiculous as his papers would look, if they were printed as they come to us, the owner of the picture would be highly indignant. Some of the papers that come to us which have been typewritten, have the lines so close together that we have some difficulty in following them, and we do not dare always to trust them to the printers for fear they will get it as badly mixed as we do. It not infrequently requires several hours of time to determine just what the author of a paper meant,

and then some time in eliminating capital letters. Apparently many medical men think that every medical word should begin with a capital. It is apparently overlooked that common nouns generally commence with a small letter instead of a capital, and yet we often find scarlet fever, measles, diphtheria, etc., beginning with a capital. We very frequently find x-ray beginning with a capital "x" and in examining many of the state journals, we find the capital "x" is frequently used in the middle of a sentence. If one will consult recent dictionaries or observe the text of papers published in our leading journals, they will be convinced that "x-ray" should begin with a small "x."

We sometimes find punctuation marks placed in such a way as to destroy the meaning of a sentence, and it becomes necessary for us to read a paragraph or two after the punctuation mark to get it into our mind what the author was trying to say, and we frequently find that the writer of a paper spells the words as they sound to him without regard to how they are spelled in the various dictionaries.

We often find phrases employed that mar the dignity of the production, and while they may do on the street, they do not look well in a medical journal. We think that much of this could be avoided by more care on the part of the writer. Some papers come to us written by men whom we know have never received the advantage of a college education, that are admirable in the care of composition and correction, and on the other hand, we find men whom we know to be graduates from literary institutions of some considerable merit, that we approach with dread because of manifest carelessness throughout the entire production. We sometimes find papers that have been corrected by writing in words, in a penmanship that has the appearance of being a hieroglyphic of some kind, which we have some trouble in translating.

Another fact comes to our mind in relation to illustrations. We read a paper with a view of preparing it for publication, and find reference made to x-ray plates and illustrations of various kinds, and we are not able to find these illustrations. We get the paper arranged for publication and then find ourselves obliged to substitute some other paper because the illustrations do not come. It should be understood that cuts cannot be made over night; that it requires some little time to get them made.

We would advise the gentlemen who prepare papers for publication, to read them over carefully several times and make themselves sure that their phraseology is such as they would like to have appear in the journal.

(Editor.)

INTERESTING OBSERVATIONS ON NERVE INJURIES IN WAR HOSPITALS

Dr. John W. Churchman of New Haven in the Boston Medical and Surgical Journal for January 25, presents some rather remarkable facts in relation to unexpected results from nerve injuries, particularly of the musculo-spiral nerve. In some cases it appears that injury to this nerve causes sensory disturbances without motor disturbance, and sometimes motor without sensory involvement. Dr. Churchman attributes this partly to the incorrectness of our knowledge as to the cutaneous distribution of the musculo-spiral and partly to the occurrence of variations in the normal arrangement of the nerve, "variations which may be commoner than is generally supposed." (This is suggestive when we consider some cases of alleged injury to the musculo-spiral nerve when the subjective symptoms did not harmonize with our ideas of nerve distribution.)

Dr. Churchman mentions another interesting type of nerve injury associated with concussion without the body being struck at all; for instance a patient was rendered unconscious by the shock of an exploding shell, followed by complete retention of urine and complete constipation. This condition had continued for nine months, demanding the constant use of the catheter. "On examination we found him entirely anesthetic to pain, touch and temperature in the regions of the skin supplied by the last dorsal and first sacral segments." "This condition was entirely due to spinal shock curiously limited to the lower portion of the cord," which condition was believed to be permanent.

Another condition observed was the presence of high grade sensory disturbance confined to the terminal portion of a nerve, which rendered contact almost intolerable.

THE TREATMENT OF BURNS BY PARAFFIN

Some of our readers may recall the rather heated discussion not long ago between the Journal of the A. M. A. and the editor of the Outlook in relation to the value of ambrine—a paraffin preparation—in the treatment of burns. It appears that Dr. Barthe de Sandfort introduced a treatment of burns by means of a paraffin preparation called ambrine, a secret proprietary of the Ambrine Company, Paris, which was rather un-

qualifiedly condemned by the A. M. A. Journal after it had been enthusiastically exploited by a lay correspondent of the Outlook. The editor of the Outlook took great offense and criticised Dr. Simmons in very vigorous language. There was much truth in what the lady correspondent of the Outlook said, but the uncritical enthusiasm of a lay writer led to some error in relation to all the facts.

In the January 13, 1917 number of the British Medical Journal, Lieut. Colonel A. J. Hull, F.R. C.S., gives a detailed account of the paraffin treatment of burns. Referring to Dr. Barthe de Sandfort's ambrine, Col. Hull says, "Experiments carried out in a military hospital gave one the impression that the treatment was valuable. Burns healed with rapidity; constitutional symptoms rapidly abated; pain was reduced to a minimum; scarring appeared to be obviated, or at any rate was not apparent. The need for grafting large burns appeared to be avoided. The burns healed so rapidly with healthy granulations, that there appeared to be nothing to be gained by grafting."

Surgeons having large experience with older methods of treatment, were unanimously of the opinion that the paraffin was much superior, and that ambrine treatment would save many lives and greatly facilitate healing of burns, altogether in support of Miss May's claims. After much experimenting, it was found the ambrine possessed mechanical advantages over commercial paraffin in that it has a lower melting point and is more plastic.

It was found, however, with all the advantages of ambrine in the treatment of burns, something more was desirable in certain cases. It was found that better results are obtained by addition of some antiseptic. By so doing "the wounds become clean more rapidly, pain is decreased and the offensive smell associated with ambrine dressings is avoided and the burns heal more quickly. It was found necessary to change the treatment of sluggishly healing burns treated by ambrine to a paraffin containing an antiseptic. The change was always beneficial." After many laboratory experiments, a paraffin preparation was found that was decidedly superior to ambrine which is now in routine use, known as No. 7 paraffin.

METHOD OF TREATMENT

"The paraffin treatment is begun at the first dressing; very exceptionally, in very septic burns, the paraffin is replaced by hot boric fomentations for two days after two days of paraffin treatment. The burn is washed with sterile water and dried. The drying is accomplished by placing a dry piece of gauze over the burn. An electric drying apparatus, such as is used by a hairdresser for drying hair, if available, is a convenient method of drying the burn.

"The burn is next covered with a layer of paraffine at a temperature of 50° C. (122° F.). The No. 7 paraffin has a melting point of 48° C. (118° F.). The temperature may be estimated by waiting until the wax shows a solidifying film upon the surface. A broad camel-hair brush, sterilized in wax, has been found to be a rapid and painless method of applying the paraffin. A thin layer of cotton-wool, cut the same size as the area of the burn, is placed over the wound after the first layer of paraffin has been applied. This layer of wool is covered with a second layer of paraffin. The wool is cut in thin sheets and pressed between layers of paper in order to obtain thin layers of wool. The dressing is completed by applying wool and bandage. The burns are usually dressed daily. In the later stages when the burn is clean and only a small amount of pus is formed, the dressing is changed every forty-eight hours.

"Blisters are not interfered with in any way at the first dressing; the paraffin is applied after washing the burn. At the second dressing, the dead layers of skin are cut away. Sloughs usually separate after a few dressings. The separation of sloughs is accelerated by applying a layer of jaconet over the wool and paraffin beneath the wool and bandage dressing."

FORMULA FOR NO. 7 PARAFFIN

Resorcin	1 per cent.
Eucalyptus Oil	2 per cent.
Olive Oil	5 per cent.
Paraffin Molle	25 per cent.
Paraffin Durum	67 per cent.

Melt the paraffin durum, and add paraffin molle and olive oil. Dissolve the resorcin in absolute alcohol (soluble 2 in 1), add the alcoholic resorcin and lastly add the eucalyptus oil, when the wax has cooled to about 55° C. (130° F.).

The Edinburgh Medical Journal in referring to the treatment of wounds of the skull, points out the fact that infection is the most serious complication. A large series of cases were received by Cuneo from the Verdun field, of injuries to the skull, where the projectile has struck tangenitally. Extradural hemorrhage had occurred in only three out of one hundred cases. So important is infection, that the author holds that the chief aim in operating is to prevent its occurrence, and that in all severe injuries to the head when there is any doubt as to the injury to the skull, the wound

should be explored by excising the edges of the superficial wound; that in case of the least fissure of the bone, the operation should be made even in the absence of brain symptoms, and where no fracture of the skull is found, if the symptoms point to an intracranial lesion, the operation should be performed. The author had four cases where there was an extensive injury to the inner table, while the outer surface of the skull was intact. The author furthermore holds that if trephining is necessary, the opening should be a small one, which can be enlarged if necessary; that large trephine openings should be avoided.

Referring to the cause of death, it seems to be from the spread of infection from injuries to the dura.

GUNSHOT FRACTURES OF THE FEMUR

Fifty pages of the British Journal of Surgery for April, 1916, are devoted to an analysis of a series of gunshot fractures by E. W. Hey Groves, of Bristol, England.

We realize that military surgery is being rewritten. The vast experiences of the European war under unusual conditions up to this time, such as may be expected in the future, brings a modification of measures altogether unexpected. The principle of antisepsis must be maintained but by different methods of application. The method of procedure may not be materially different from compound fractures from other causes than gunshot particularly; it may apply to compound fractures of the femur observed on railways and in shops. The first consideration as it appears to us, is to transport the patient before treatment is begun to a well equipped hospital under a surgeon trained in traumatic surgery. The beginning surgeon may feel he can care for the patient in even indifferent surroundings but the worry, anxiety and the indifferent results may lead the young surgeon to discover his new experience is dearly purchased.

The principles of treatment laid down by Mr. Groves are:

First—Immobilizing the limb.

Second—Dressing without movement.

Third—Extension of the broken bone sufficient to secure correct alinement and full length.

Fourth—Thorough cleansing and drainage of infected wounds with provision for free or continuous irrigation.

Fifth—Simiflexion of the joints above and below the broken bone to relieve the tension of the great flexors and to place the limb in a position of physiological rest.

Sixth—Freedom of the uninjured parts of the limb and joints, to insure that massage and movements may be carried out from the earliest possible moment.

These measures of treatment require proper facilities, practical skill and watchfulness. The writer in detail considers each question, the complications, the question of amputations, saving of life, infection, delayed union, and results as relates to the usefulness of the limb, and in the series of sixty cases, the results are:

Loss of life	10 per cent.
Loss of limb	6.6 per cent.
Good form and function in limbs saved	74 per cent.
Delayed union	16 per cent.
Delayed healing	6 per cent.
Deformity	4 per cent.

CONVICTION OF CHIROPRACTOR AFFIRMED

(State vs. Edmund [Iowa], 157 N. W. R. 729)

The Supreme Court of Iowa says that the defendant was what was called a "chiropractor," and on trial to a jury was convicted of assuming the duties of a physician and of treating persons afflicted with disease without having a license from the state board of medical examiners. In the brief filed for him it was claimed that the trial court erred in overruling his motion for a directed verdict and in its instructions to the jury. The record did not show that any motion either for a directed verdict or for a new trial was ever filed, and it did not appear that any exceptions were taken to the instructions as to the law required. A general exception appeared to be noted to the instructions as a whole in these words: "To all of which defendant duly excepted." Some rulings on the admission and rejection of testimony were excepted to, but none of these were challenged in the briefs. The argument proceeded on the theory that no conviction should have been had because it was not shown that any of the patients whom the defendant treated were afflicted with a disease. One instruction given the jury was complained of in argument, but, as it merely stated the substance of the medical practice act, there was no merit in the complaint, even if it had been properly excepted to. The record was not such as to present any question for review, and, had it been, the supreme court discovers no error. The judgment must therefore be, and it is, affirmed.

The Association of Military Surgeons of the United States announces the results in the Henry S. Wellcome Prize Competition. Captain Mahlon Ashford, M.C., U. S. A., who wrote on the subject: "The most practicable plan for the organization, training and utilization of the medical officers of the Medical Reserve Corps of the United States Army and Navy, and of the medical officers of the Officers' Reserve Corps of the United States Army,

in peace and war," was awarded a gold medal and three hundred dollars. First Lieut. Henry C. Coe, M.R.C., of New York City, who received the honorable mention for this prize was awarded a life membership in the Association. A silver medal and two hundred dollars was awarded to Assistant Surgeon General W. C. Rucker, U.S.P.H.S., whose essay was entitled: "The influence of the European war on the transmission of the infections of disease, with special reference to its effect upon disease conditions of the United States." Passed Assistant Surgeon J. R. Hurley, U.S.P.H.S., received honorable mention for this prize and a life membership in the Association. These prizes, which were given by Mr. Henry S. Wellcome, an American living in London, are annually competed for by officers of the Army, Navy, Public Health Service, the National Guard and the Officers' Reserve Corps of both the Army and the Navy. The essays of the successful contestants will be published at an early date in The Military Surgeon.

In the seven states by which the amounts expended under these three headings were given or estimated, the results were as follows:

State	Tuberculosis	Venereal Disease	Diseases Other than Tuberculosis
Connecticut	$180,000	$ 500	$ 22,000
Iowa	5,000	....	2,000
Louisiana	10,000	....	27,000
Massachusetts	511,361	3,000	21,000
Michigan	.....	....	15,000
New Jersey	10,000	....	128,000
South Carolina	16,000	....	57,000
Totals	$732,361	$3,500	$272,000

In these states more than 209 times as much money was expended for tuberculosis as for venereal disease, and more than 77 times as much for diseases other than tuberculosis as for venereal disease.

From eleven states and one territory comparative statistics of the amounts expended for the suppression of tuberculosis and the suppression of venereal disease are available as follows:

State	Tuberculosis	Venereal Disease
Connecticut	$ 180,000	$ 500
Delaware	10,000	.....
Iowa	5,000	.....
Kansas	25,000	.....
Louisiana	10,000	.....
Massachusetts	511,361	3,000
Michigan	.....	.....
New Hampshire	20,000	.....
New Jersey	10,000	.....
Rhode Island	197,000	.....
South Carolina	16,000	.....
Porto Rico	16,000	.....
Totals	$1,000,361	$3,500

In the tenth edition of the Encyclopedia Britannica, Vol. xxvi, p. 557, certain figures are given relative to the frequency of cancer mortality in different occupations. As this list is important for the understanding of the Cresswell theory, I will give it. The numbers mentioned are for the purpose of grading the frequency with which cancer occurs in different occupations.

Grocers	34	Coal Heavers	56
Clergy	35	Butchers	57
Potters	35	Coachman and Grooms	58
Coal Miners	36	Tool and Scissors Makers	58
Farmers	36	Gas Workers	59
Fishmongers	42	Lawyers	60
Medical Practitioners	43	Merchant Seamen	60
Blacksmiths	45	Maltsters	61
Fishermen	46	Commercial Travelers	63
Porters	48	Inn and Hotel Servants	65
General Laborers	48	Brewers	70
Drapers	49	Inn Keepers in London	70
Shoemakers	50	Chimney-sweeps	156
Dock and Wharf Laborers	51		
Tobacconists	51		
Plumbers	53		
Inn Keepers	53		

BOOK REVIEWS

A TEXT-BOOK ON THE PRACTICE OF GYNECOLOGY

For Practitioners and Students. By W. Easterly Ashton, M.D., L.L.D., Professor of Gynecology in Graduate School of Medicine of the University of Pennsylvania. Sixth Edition, Thoroughly Revised. Octavo of 1097 Pages With 1052 Original Drawings. W. B. Saunders Company, 1916. Cloth $6.50 Net, Half Morocco $8.00 Net.

This well known work has now reached the sixth edition. The new edition has been carefully revised, and much of it rewritten. New operations are described and old ones which have been largely abandoned, have been omitted.

Referring to prolapse of the uterus, only two operations are recommended; ventral fixation and supravaginal hysterectomy, and fixation of the cervical stump to the abdominal wound; which operations are only indicated when the woman has passed the child-bearing period.

Considerable space is devoted to the consideration of cancer of the uterus and its treatment. The Percy cautery operation for advanced cancer of the cervix is disposed of in three lines.

A TREATISE ON DISEASES OF THE SKIN

For the Use of Advanced Practitioners. By Henry Stelwagon, M.D., Ph.D., Professor of Dermatology, Jefferson Medical College, Philadelphia. Eighth Edition, Thor-

oughly Revised. Octavo of 1309 Pages, With 356 Illustrations and 33 Full-Page Colored and Half Tone Plates. W. B. Saunders Company, 1916. Cloth $6.50 Net, Half Morocco $8.00 Net.

To medical men generally, dermatology is the most difficult and confusing branch of medicine. It may be because the practitioner is able to see and appreciate his limitations both in diagnosis and treatment, whereas in internal diseases there is a wider field for speculation. It is possible that the lack of interest in skin diseases is due to the patience and persistence necessary to a correct diagnosis and a successful treatment. To overcome these difficulties as far as possible, the author has entered into a detailed discussion of the general subject of dermatology. There is one feature in this subject that should be carefully considered; a brief manual for the "busy practitioner" is impossible until a foundation is laid by a careful study of an exhaustive work like the one before us. Several valuable American works on dermatology have been written, but none offer a better exposition of the subject than Stelwagon. The author has entered the field determined to gather from every source, whatever may be helpful to the practitioner. So well is this book known to the profession that a detailed review is not necessary.

A MANUAL OF NERVOUS DISEASES

By Irving J. Spear, M.D., Professor of Neurology at the University of Maryland, Baltimore. Twelve mo. of 660 Pages With 169 Illustrations. W. B. Saunders Company, 1916. $2.75 Net.

This book is intended for the general practitioner, and the author has avoided the technical features of the subject so often indulged in by the neurologic specialist. The anatomy and physiology of the nervous system is presented in a way to enable the general practitioner to follow the descriptions, understandingly, and to appreciate this essential branch of neurologic study. A chapter is given on the method of examining patients with enough detail to enable the practitioner to arrive at a safe diagnosis in the less complicated cases.

The first section of the book on diseases of the nervous system is devoted to diseases and injuries of the peripheral nerves. The text is clear and the symptomatology, diagnosis and treatment, concise and practical. A brief chapter is given on Diseases of the Muscular System—as Progressive Muscular Dystrophy, etc. Passing diseases of the cranial nerves crura, pons and medulla, we find a rather full discussion of the diseases of the spinal cord which constitute the most interesting chapter in nervous diseases to the general practitioner. The descriptions are direct and brief, and furnish the physician with the essential facts for a diagnosis and treatment. In addition to ordinary diseases of the brain, are found neurasthenia, psychasthenia, and various types of neurosis, which have only recently received intelligent consideration.

The book is altogether well adapted to the use of the general physician and surgeon who have but little time to go over the larger works concerning matters of every day interest.

THE CLINICS OF JOHN B. MURPHY, M.D., AT MERCY HOSPITAL, CHICAGO

Edited by P. G. Skillern, Jr., M.D., Philadelphia. December Number, 1916. Published Bi-Monthly. W. B. Saunders Company. Price, Paper $8.00 Per Annum; Cloth $12.00 Per Annum.

This, the last number of the famous Murphy Clinics, will appeal to the medical profession as containing the last work of one of the world's greatest surgeons. It will have a historic interest in that there is set forth an element of greatness rarely seen in the great world characters.

In memorium, by distinguished surgical associates.

The Medical History and Last Illness of John B. Murphy, by Dr. C. L. Mix.

No one can read these tributes of respect and affection and this history of fortitude, courage, and heroic struggle for the accomplishment of great ends, without a feeling of emulation in however small a way.

The portrait on the first page will bring to the minds of thousands of physicians the eloquent word-pictures of diagnostic and operative facts and procedures which will be carried in vivid recollection until memory fails.

A TEXT-BOOK OF GENERAL BACTERIOLOGY

By Edwin O. Jordan, Ph. D., Professor of Bacteriology, in the University of Chicago and in Rush Medical College. Fifth Edition, Thoroughly Revised. Octavo of 669 Pages, Fully Illustrated. Philadelphia and London. W. B. Saunders Company, 1916. Cloth, $3.25 Net.

This book has from the appearance of the first edition, been a carefully prepared, well arranged and excellently written work on general bacteriology. Although this work pays more attention to the bacteria found in soil, water and milk, and those associated with such industries as the preservation of food, the making of vinegar, the bakery fermentations, etc., than most texts on the subject do, nevertheless, most of the work is devoted to a study of the disease producing types. This is but natural since the author is a teacher of medical students. It is also the phase of the subject of most interest to physicians. This new edition is thoroughly up-to-date. It well deserves the credit of having been adopted as the standard text-book in bacteriology in a number of the better medical colleges.

Henry Albert.

(Continued on Advertising Page xiv)

COMING MEETINGS

PRELIMINARY PROGRAM, SIXTY-SIXTH ANNUAL SESSION OF THE IOWA STATE MEDICAL SOCIETY

The Iowa State Medical Society will hold its annual session in Des Moines, May 9, 10 and 11. The Scientific Committee, with the aid of the Section Chairmen, will endeavor to place before the Society at this time one of the best programs ever prepared in the history of the organization.

The meeting will be in charge of President J. F. Herrick, of Ottumwa, who will be assisted and supported by Dr. Frank M. Fuller, of Keokuk, Chairman of the Section on Medicine; Dr. Charles J. Rowan, of Iowa City, Chairman of the Section on Surgery, and Dr. W. W. Pearson, of Des Moines, Chairman of the Section on Eye, Ear, Nose and Throat.

It is with pleasure that the committee presents the names of Dr. Harvey Cushing, Boston; Dr. F. M. Pottenger, California, and Dr. George E. Shambaugh, Chicago, as the out of town guests of the Society. Every one of these men will have a message worth hearing.

The Hotel Chamberlain has been selected by the Committee on Arrangements as the Headquarters during the session. This will be the meeting place of the Section on the Eye, Ear, Nose and Throat, and of the House of Delegates. The general session will be held at the Shrine Temple. Here, also, will be displayed the commercial exhibit.

MEDICAL AND SURGICAL SECTIONS

Wednesday Morning, May 9, 9:00 A. M.

Opening exercises, thirty minutes.

9:30 A. M.

1. Problems Presented to the Community and to the Doctor by Communicable Diseases—M. F. Boyd, Iowa City, twenty minutes.

Discussion opened by A. C. Moerke, Burlington, five minutes.

2. Method of Diagnosis of the More Common Valvular Heart Lesions With Prognosis—W. L. Bierring, Des Moines, twenty minutes.

Discussion opened by C. P. Howard, Iowa City, five minutes.

3. Prenatal, Natal and Postnatal Lesions of the Cerebrum With Resultant Conditions—E. M. Williams, Sioux City, twenty minutes.

Discussion opened by D. N. Loose, Maquoketa, five minutes.

4. Diagnosis of Chronic Bone Lesions—Arthur Steindler, Iowa City, twenty minutes.

Discussion opened by M. J. Kenefick, Algona, five minutes.

Wednesday Afternoon, 2:00 P. M.

5. Goitre, Use and Misuse of Treatment—Eli Grimes, Des Moines, twenty minutes.

Symposium on the Surgical Conditions of the Kidney

6. Tuberculosis of the Kidney—J. M. Fettes, Le Mars.

7. Non-Tuberculous Infections of the Kidney—M. J. Moes, Dubuque.

8. Tumors of the Kidney—R. E. Green, Creston.

9. Functional Tests and Pyelography in Diagnosis—N. G. Alcock, Iowa City.

10. Summary—Charles J. Rowan, Iowa City.

Discussion led by A. M. Pond, Dubuque; A. J. McLaughlin, Sioux City, and E. D. Rohlf, Waterloo. (Time, including discussions ninety minutes.)

11. Oration on Surgery—Van Buren Knott, Sioux City, thirty minutes.

12. The Surgeon: His Vacation, Vocation and Avocation—W. B. LaForce, Ottumwa, twenty minutes.

Wednesday Evening

Social Entertainment

Thursday Morning, May 10, 9:00 A. M.

13. What is not Rheumatism?—W. H. Rendleman, Davenport, twenty minutes.

Discussion opened by J. W. Shuman, Sioux City, five minutes.

14. Acidosis in Children—Fred Moore, Des Moines, twenty minutes.

Discussion opened by A. H. Beifeld, Iowa City, five minutes.

15. Acidosis in Surgery—Evarts A. Graham, Mason City, twenty minutes.

Discussion opened by J. H. McGready, Independence, five minutes.

16. Address on Surgery—Harvey Cushing, Boston, fifty minutes.

17. Paper—Major Thos. F. Duhigg, Des Moines, twenty minutes.

Thursday Afternoon, May 10, 2:00 P. M.

Symposium on Pleurisy

18. Symptomatology, Historical Note, Frequency, Failure of Diagnosis—J. W. Osborn, Des Moines.

19. Etiology and Pathology—Guthrie McConnell, Waterloo.

20. Diagnosis and Prognosis—W. J. K. Findley, Sac City.

21. Non-Surgical Treatment—Robert L. Parker, Des Moines.

22. Surgical Treatment—L. W. Littig, Davenport. (Time, including discussions, ninety minutes.)

23. The Physician's Duty to His Tuberculous Patients—F. M. Pottenger.

24. Treatment of Tuberculous Cervical Lymphatitis—George Decker, Davenport, twenty minutes.

Discussion opened by J. W. Harrison, Guthrie Center, five minutes.

Thursday Evening, 7:30 P. M.

25. President's Address—J. F. Herrick, Ottumwa.

26. Address: Disease of the Internal Ear in its Relation to General Medicine—George E. Shambaugh, Chicago.

Friday Morning, May 11, 9:00 A. M.

Symposium on Obstetrics

27. Pathology of Pregnancy.
    (a) General Disorders of Mother.
    (b) Toxæmia.
    (c) Need for more accurate care and details of care essential during pregnancy.
    —William R. Whiteis, Iowa City.

28. Indication and Use of Drugs in Obstetrics—Harry W. Vinson, Ottumwa.

29. Management of Premature Labor and Obstetric Surgery Outside of Hospitals—Charles N. Stevenson, Milton.

30. Obstetrical Accidents as Cause of Gynæcological Troubles—William C. Kasten, Fort Madison.

31. Summary of Symposium—Frank M. Fuller, Keokuk. (Time, including discussions, ninety minutes.)

32. Oration in Medicine—Max E. Witte, Clarinda, thirty minutes.

EYE, EAR, NOSE AND THROAT SECTION

Thursday Morning, May 10

Lues of the Eye—G. F. Harkness, Davenport.

Discussion by H. B. Gratiot, Dubuque, C. C. Walker, Des Moines.

Lues of the Nose and Throat—F. W. Bailey, Cedar Rapids.

Discussion by C. F. Howland, Des Moines, F. A. Will, Des Moines.

Tuberculosis of the Larynx—R. M. Lapsley, Keokuk.

Discussion by H. P. Engle, Newton, Lillie Kinnier, Dubuque.

Normal Labyrinth—E. R. Lewis, Dubuque.

Discussion by F. G. Murphy, Mason City, R. R. Snyder, Des Moines.

Acidosis and Acetonuria—F. A. Stevens, Iowa City.

Discussion by R. H. Parker, Des Moines.

Symposium—Accessory Sinuses of the Nose

Symptoms and Diagnosis—C. M. Werts, Des Moines.

Discussion by F. E. Franchere, Sioux City.

Non-Operative Treatment—H. G. Langworthy, Dubuque.

Discussion by S. A. O'Brien, Mason City.

Operative Treatment—F. E. V. Shore, Des Moines.

Discussion by Edw. Cobb, Marshalltown, F. P. Lierle, Marshalltown.

End Results—L. W. Dean, Iowa City.

Discussion by R. F. French, Marshalltown.

Geo. E. Shambaugh, Chicago, will address the General Session Thursday evening on: Disease of the Internal Ear in Its Relation to General Medicine.

MEDICAL SOCIETY OF THE MISSOURI VALLEY

The meeting of the society at Keokuk, Iowa, March 22-23, promises to be of unusual interest, both in relation to its scientific program, as well as to the social features of the entertainment. All the members of the Tri-State Medical Society have been invited to attend and a number of them will take part in the program. The merger of the Tri-State Society with the Missouri Valley will be discussed and a large attendance is therefore anticipated.

The Hotel Iowa will be headquarters and reservations should be made early to avoid disappointment. The sessions will be held in the Masonic Temple. The program is as follows:

M. W. Flothow, Woodbine, Ia.—Acute Endocarditis, Report of a Case of Malignant Endocarditis Associated With Marked Secondary Anemia.

A. B. Somers, Omaha, Nebr.—Why Cesarean Section?

H. Winnett Orr, Lincoln, Nebr.—Late Results of Operation in Hip Joint Disease.

C. H. Magee, Burlington, Ia.—The Pelvic Fasciæ.

Robert H. Herbst, Chicago—Advantages of the Two-Stage Prostatectomy.

Ralph W. Webster, Chicago—Magnesium Sulphate Poisoning.

C. B. Francisco, Kansas City—Perthe's Disease.

Carl E. Black, Jacksonville, Ill.—First-Aid to Spinal Injuries.

G. Frank Lydston, Chicago—Sex Gland Implantation.

L. W. Littig, Davenport, Ia.—Tobacco and Abdominal Pain.

Jerome Morley Lynch, New York City—Cancer of the Rectum and Colon.

J. Rawson Pennington, Chicago—The Etiology and Treatment of Hemorrhoids.

Franklin A. Turner, Rockford, Ill.—Diagnosis and Symptomatology of Hemorrhoids.

Caryl A. Potter, St. Joseph, Mo.—The Percy Cautery in Inoperable Carcinoma of the Cervix.

John W. Shuman, Sioux City Ia.—Abnormalities of the Heart as Demonstrated by Rentgenoscopy.

L. A. Dermody, Omaha, Nebr.—Treatment of Acute Perforating Gastric and Duodenal Ulcers.

Daniel N. Eisendrath, Chicago—Recent Advances in the Surgery of Gall-Stone Disease.

Symposium on "Exhaustion Diseases"

Frank P. Norbury, Springfield, Ill.—Etiology and Mechanism.

Tom B. Throckmorton, Des Moines, Ia.—The Fatigue Neuroses.

H. Douglas Singer, Kankakee, Ill.—Infective Exhaustion Psychoses.

Albert H. Dollear, Jacksonville, Ill.—Treatment. Discussion opened by S. Grover Burnett, Kansas City.

Sidney Wilgus, Rockford, Ill.—Hydrotherapy in the Sanitarium Treatment of the Nervous and Insane.

Newell Jones, Omaha, Nebr.—Abdominal Pain in Early Childhood.

Symposium on "Focal Infection"

A. B. Leeds, Chickasha, Okla.—Some Observations.

D. B. Phemister, Chicago—Surgical Aspects.

W. H. Livermore, Chickasha, Okla.—Clinical Observation.

George W. Hall, Chicago—Pathological Changes in the Central Nervous System due to Possible Infections from the Teeth and Tonsils.

E. H. Skinner, Kansas City—The Interpretation of Focal Infections upon Dental Films.

A. F. Tyler, Omaha, Nebr.—The Role of Dento-Alveolar Abscess to Systemic Disease.

O. C. Morrison, Carroll, Ia.—Pathology of Traumatic Wounds.

Herman E. Pearse, Kansas City—Fibroid Tumors and Their Fatal Complications.

Wm. L. Shearer, Omaha, Nebr.—Lantern slide lecture on Cleft Palate and Harelip.

Charles H. Parkes, Chicago—Ethics in the Practice of Surgery.

Julius Frischer, Kansas City—Subject to be announced later.

E. L. DeLanney, Omaha, Nebr.—Protozoa Producing Diarrhea in Man.

C. E. Ruth, Des Moines, Ia.—Gun Shot Wounds of the Brain.

C. B. Hickenlooper, Winterset, Ia.—Report of an Unusual Case.

A. M. A. NEWS

The sixty-eighth annual meeting of the American Medical Association will meet in New York City, June 4-8, with General Headquarters at Hotel Astor, Times Square.

Section Headquarters

Baltimore—Madison avenue and Forty-third. Practice of Medicine, Preventive Medicine and Public Health.

Waldorf-Astoria—Fifth avenue and Thirty-fourth. Surgery, General and Abdominal, Obstetrics, Gynæcology, Genito-Urinary Diseases and Orthopedic Surgery.

McAlpin—Broadway and Thirty-fourth. Diseases of Children, Nervous and Mental Diseases, Pathology and Physiology, Enterology and Proctology.

Manhattan—Madison avenue and Forty-second. Pharmacology, Therapeutics and Dermatology.

Astor—Ophthalmology, Laryngology, Otology, Rhinology and Stomatology.

Railway Rates and Route

Neither has been decided upon definitely as yet, but sufficient to insure approximately same rate as last year, with extra accommodation and the route is being planned for the Western A. M. A. contingent to join with Iowa and Chicago in Chicago and go to New York City together, thus giving all a chance to visit their friends enroute and adding extra pleasure to the trip.

Hotel Rates

The hotel rates as announced by the Committee on Arrangements, through the Sub-Committee on Hotels, of which Dr. Reginald H. Sayre, 17 West Forty-third street, is chairman, will be reasonable, ranging from $2.00 to $8.00 per day for two in room, according to kind of accommodations and those wishing reservations should write early to Chairman of Hotel Committee, the hotel of their choice, or the undersigned.

J. W. Cokenower, Chr. Trans. Com.

SOCIETY PROCEEDINGS

The Des Moines Pathological Society held their monthly meeting at the Harris-Emery Tea Room, February 22. Following an informal dinner at 6:30 o'clock, the society was addressed by Dr. Albert Andrews, of Chicago, on the subject, Reflexes and Referred Sensation in Connection With the Fifth Nerve. The essayist in a very brief but practical manner considered the trigeminus from an anatomical standpoint, thus carefully laying a foundation upon which he constructed his paper. The extensive ramifications of the branches of this nerve to structures extending from the meninges to the abdominal viscera was touched upon as evidence showing the possibilities of reflex sensation to parts, not of themselves involved, but from which subjective symptoms may eminate. The relationship of focal infections about the oral cavity and the sinuses to irritation of fifth nerve branches, was a point likewise emphasized.

Case histories of patients with the clinical findings were interspersed here and there throughout the paper, illustrating the experiences the author had encountered in working out the etiology of the various reflex symptoms of which they had complained of. So practically was this done and so tersely were the records presented that the interest of the audience was aroused early and easily maintained throughout the discourse. Dr. Andrews, himself for many years a general practitioner, seemed imbued with the great importance of arousing the general worker to be more thorough in his examination of patients, to have some definite idea of what he was in search of, and by all means not to treat symptoms, but to remember that he is treating a human being. The members of the society feel very kindly to Dr. Andrews for his plain and helpful talk, and it is to be regretted that the message was not heard by every general practitioner in the state.

The Southwestern Iowa Medical Society held their mid-winter session at Creston on February 15, under the presidency of Dr. C. A. Weaver, Cumberland. Through the efforts of Dr. Enos Mitchell, Grand River, an unusually strong program had been prepared, and most of those who were due to take an active part, were present and read their papers. The following program was carried out:

The Value of Laboratory Work for the General Practitioner—H. M. Stanley, Creston.

Some Considerations Essential to an Understanding of Infection—Con R. Harken, Osceola.

Some Modern Theories of the Chemistry of Infection and Immunity—J. S. Weingart, Des Moines.

Vaccine and Serum Therapy—A. K. Detwiler, Omaha.

Blood Chemistry With Special Reference to Detection of Diabetes and Nephritis. Illustrated—R. B. H. Gradwohl, St. Louis.

War Wounds as Treated on the German Firing Line. (Illustrated by lantern slides.)—J. R. Buchbinder, Chicago.

The Simon Binet Method of Estimating Intelligence of Children—Jeannette Throckmorton, Chariton.

Address—Prof. O. E. Klingaman, Director of University Extension Department.

Drs. Glomset, Osborn and Throckmorton were in attendance from Des Moines.

HAVE YOU PAID YOUR DUES? IF NOT, WHY NOT

The attention of the members of the Iowa State Medical Society to the importance of promptly paying their dues, has been called, at various times, either through the columns of the Journal or by the secretaries of the component county medical societies.

According to the by-laws of the State Society, all dues and assessments are payable in the office of the Secretary of the State Society on or before January 1, prior to each annual session. Knowing, however, the weakness of mankind "to put off until tomorrow what should be done today," provision was made in the by-laws, whereby thirty days of grace were given in which time the late, tardy and straggling ones could present their dues and continue in their ways of well doing.

The House of Delegates by past action set the final date at February 1, and in the by-laws decreed that any county society, or member who has failed to send in their dues on or prior to this date, ARE IN SUSPENSION and as such are not entitled to any of the rights and privileges accorded to those in good standing.

It is now past six weeks when a physician could still pay his dues and continue his membership and good standing in the Society, and yet it remains a deplorable fact that many, through carelessness and negligence, but not through ignorance, have forfeited their rights and privileges by failing to pay their dues within the allotted time.

By no means is the member's LEGAL PROTECTION a small item to be tossed aside when but THREE DOLLARS is sufficient to continue the services offered by the committee and the Society's attorneys. ONE DOLLAR brings the Journal each month to every member. Who can furnish one so good for twice the amount? If our mathematics are correct, there is ONE DOLLAR yet to be accounted for. This amount is used in defraying the general expenses of the Society. All these good things for the paltry sum of FIVE DOLLARS. No phyician in the state can afford to do without the benefits of ORGANIZED MEDICINE, and it would appear that a five dollar note would be the last thing on earth that a physician would allow to stand between himself and such an organization.

There is not a physician who carries life, health or accident insurance, who for one moment would expect to be reimbursed by an insurance company for something which happened to him after his policy had lapsed, yet the medico-legal committee are constantly being asked to consider damage suits arising during the time a member has been in suspension by failing to send in his dues at the proper time.

If the management of the Society is to be run in a businesslike manner, it can only be done by the cooperation of every member, and it is to be hoped that every delinquent will pay his dues at once and promise to sin no more.

MARRIAGES

Dr. George Mattison, of Akron, to Miss Ruth Thompson, of Webster City, at Webster City, January 31.

BIRTHS

Dr. and Mrs. George A. Blaha, of Whitten, February 8, a son.

Dr. and Mrs. E. A. Nash, of Frankville, February 2, a daughter.

Dr. and Mrs. B. H. Borman, of Lawler, February 1, a son.

Dr. and Mrs. R. E. Keyser, of Marshalltown, February 22, a son.

Dr. and Mrs. George C. Oldag, of Paullina, February 16, a son.

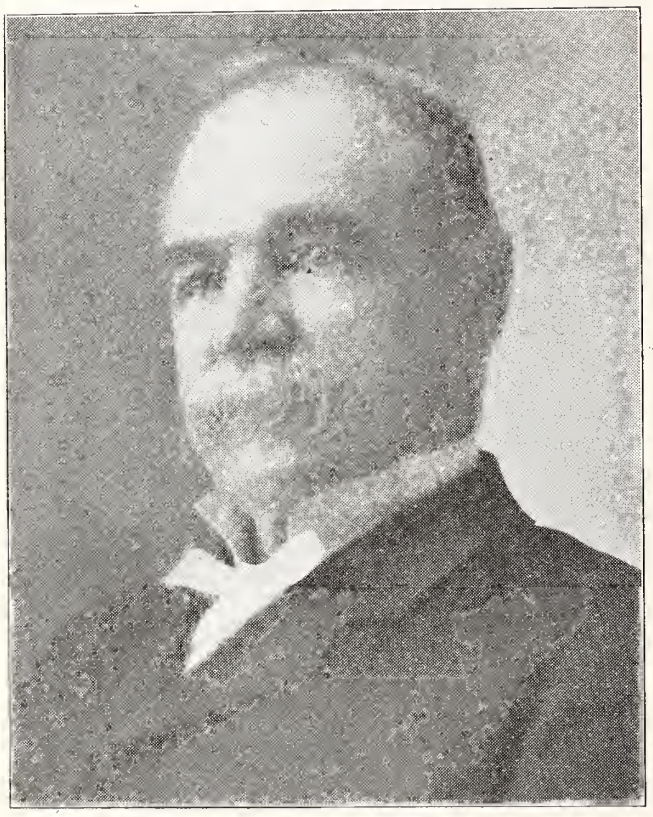
DEATHS

Harley G. Ristine, M.D., died at his home in Fort Dodge from diabetes, January 30, aged seventy-nine years. Harley G. Ristine, son of Ben T. and Florinda H. Ristine, grandson of Major Henry Ristine, was born at Crawfordsville, Indiana, May 21, 1838. After graduating from Wabash College, he studied medicine with his uncle, the late Dr. Henry Ristine, of Cedar Rapids; graduated from Rush Medical College in 1869, later taking post-graduate work at the New York Post-Graduate Medical School and Hospital. Dr. Ristine was a veteran of the Civil War, having served in Company K, Eighty-Sixth Regiment, Indiana Volunteers, afterwards serving two years in the Quartermaster's Department.

Dr. Ristine was one of the organizers of, and later president of the Fort Dodge District Medical Society; president of the Central District Medical Society; member of Webster County and Iowa State Medical Societies; Fellow of the American Medical Association; member of the National Association of Railway Surgeons and local surgeon for the Illinois Central, Rock Island and Minneapolis and St. Louis Railroads.

Dr. Ristine was the dean of the medical profession of Fort Dodge and vicinity, having devoted forty-

six years of his life to that community in ministering to the sick and unfortunate. The death of Dr. Ristine removes one more from the pioneer physicians of Iowa who experienced the inconveniences and hardships of the early day.



DR. RISTINE, Ft. Dodge

At the memorial service held February 7 at Fort Dodge by the Webster County Medical Society, a high tribute was paid to the spirit and character of Dr. Ristine and the following resolutions were adopted.

Whereas, Almighty God, in his wise providence, has seen fit to remove from among us Dr. H. G. Ristine, an honored member of our profession, be it resolved that we, his colleagues, hereby express the love and respect we feel for one who for forty-seven years in winter's raging storm and summer's blazing heat served this community; no home too poor or humble, no human being too lowly, but he sacrificed his own comfort that the sick and suffering might be relieved.

Resolved, that we, members of the Webster County Medical Society, feel that in the death of Dr. Ristine we have lost a genial companion, a faithful friend, and a trusted counselor.

Be It Further Resolved, that we extend to the bereaved family our tender sympathy, and that these resolutions be spread on the records of the Society, and a copy of them be sent to the family.

Dr. R. Evans,
Dr. C. J. Saunders,
Dr. A. H. McCreight,
Committee.

CHANGES OF LOCATION

Dr. Samuel P. Free, of Perry, will remove to Denver, Colorado.

Dr. C. H. Dewey, of Sioux City, will succeed Dr. Free at Perry.

Dr. E. N. Johnston, of Fredericksburg, will remove to New Hampton.

Dr. W. W. Potter, of Mediapolis, has removed to Lone Tree.

MEDICAL SUMMER COURSE AT THE STATE UNIVERSITY

In response to an increasing number of requests to the College of Medicine, the State University of Iowa has announced its first summer course for the general practitioner, notice of which appears in the advertising pages of this number of the Journal.

The opening of a summer course in medicine marks another step in the rapid progress which the College of Medicine has made. During the past few years, the amount of clinical material has grown with exceeding rapidity and with the well equipped clinical laboratories places the College of Medicine in a position to extend its sphere of usefulness more directly to the medical profession by furnishing a course of a post-graduate character.

The clinical course will be of a very practical character, emphasizing the most modern methods in both clinical and laboratory diagnosis and treatment. Bedside work will be conducted in general medicine and surgery on alternate days, the specialties being presented by clinical demonstration. Clinical laboratory work will be conducted daily covering the cases under observation and will give the physician opportunity to become familiar with such of the laboratory methods o fdiagnosis as are of most value.

The clinical course will extend over a period of four weeks, beginning June 18.

HOSPITAL EQUIPMENT

The Journal is in receipt of the Hospital Equipment Catalog which has been sent out recently by the Frank H. Betz Company, of Hammond, Ind. No introduction to this well known firm is needed, since for almost the past quarter of a century, Betz has been a caterer to the surgical trade of the physicians and medical institutions in this country. From a mechanical point, the book is perfect; as a reference on up-to-date hospital equipment, it is compact. That the catalog will be well received by the profession, we have little doubt, since one physician remarked on examining the same, "There is nothing the matter with the Betz Company but the price and they put it down to where it belongs." If this can be taken as an expression of appreciation, we predict the continued success of the Frank H. Betz Company.



John Francis Herrick, M.D.,
PRESIDENT
Iowa State Medical Society
1916-1917

The Journal of the Iowa State Medical Society

Vol. VII — Des Moines, Iowa, April 15, 1917 — No. 4

Iowa State Medical Society

Sixty-Sixth Annual Session
Des Moines
May 9, 10 and 11, 1917

Program

OPENING EXERCISES

Wednesday, May 9, 1917
9:00 a. m.

Call to Order by the President—
J. F. Herrick, M.D., Ottumwa

Invocation— Rev. John T. Noonan, Des Moines

Address of Welcome for the City—
Mayor John Mac Vicar, Des Moines

Address of Welcome for the Profession—
H. A. Minassian, M.D., Des Moines

Response— Wm. L. Allen, M. D., Davenport

SCIENTIFIC PROGRAM

MEDICAL AND SURGICAL SECTIONS

Section on Medicine—
Chairman, Frank M. Fuller, M.D., Keokuk

Section on Surgery—
Chairman, Chas. J. Rowan, M.D., Iowa City

Wednesday, May 9
9:30 a. m.

1. The Relation of Communicable Diseases to the Community and to the Physician—
Mark F. Boyd, M.D., Iowa City, *twenty minutes*

Abstract: Problems arising in the control of communicable diseases which involve both the community and physician are considered. Among these are the necessity for disease reporting, the utilization of this information by health officials, the placing of the responsibility for the inauguration, maintenance and release from isolation and the principles which should govern release. Practicing physicians can fill a distinct role in the control of these diseases by reducing the number of secondary cases and promoting a spirit of co-operation with public health measures. The very unsatisfactory circumstances of the part time health officer are also considered, together with the reasons responsible for this condition.

Discussion opened by A. C. Moerke, M.D., Burlington, *five minutes*

2. Method of Diagnosis of the More Common Valvular Heart Lesions With Prognosis—
Walter L. Bierring, M.D., Des Moines, *twenty minutes*

Abstract: Mitral and aortic valves most frequently affected. Importance of previous medical history; auricular fibrillation and angina pectoris as diagnostic and prognostic factors.

Character and number of decompensation attacks, determine outcome. Effort to co-relate the results of graphic methods with clinical observations.

Discussion opened by C. P. Howard, M.D., Iowa City, *five minutes*

3. Prenatal, Natal and Postnatal Lesions of the Cerebrum With Resultant Conditions—
E. M. Williams, M.D., Sioux City, *twenty minutes*

Abstract: Deformities and lack of development—cephaloceles, their types, diagnosis and treatment. Hydrocephalus, prenatal and post-natal; causes, syphilis and meningitis. Natal period—intracranial hemorrhage, supra and infratentorial types, their symptomatology and mechanism of occurrence and treatment.

Discussion opened by D. N. Loose, M.D., Maquoketa, *five minutes*

4. Diagnosis of Chronic Bone Lesions—
Arthur Steindler, M.D., Iowa City, *twenty minutes*

Abstract: General diagnostic principles; period of latency, character of pain, incubation. Chronic ostitis, following systemic infection; pyogenic ostitis, typhoid spine, gonorrheal osteoperiostitis, periostitis luetica. Ostitis tuberculosa. Osteochondritis deformans. Diagnostic importance of trauma; post-traumatic kyphosis. Osteochondritis dissecans, myositis ossificans. Chronic degenerative types; ostitis fibrosa, Pagets' disease, bone cysts, osteochronodroma, malignant tumors. Elements of x-ray diagnosis. Differential diagnostic points in the radiographs, demonstrated in lantern slides.

Discussion opened by M. J. Kenefick, M.D., Algona, *five minutes*

Wednesday, May 9
2:00 p. m.

5. Goitre, Use and Misuse of Treatment—
Eli Grimes, M.D., Des Moines, *twenty minutes*

Abstract: The term goitre is a generic one and includes variations of function as well as of structure. The thyroid is an organ of internal secretion; relationship to hypophysis, pancreas, suprarenals, etc.; classification of symptoms imperfect and unsatisfactory. Importance of diagnosing hyper and hypo thyroidism with selection of proper treatment. Danger of thyroid therapy when not definitely indicated. Importance of thyroid conditions in diabetes.

Symposium on the Surgical Condition of the Kidney

6. Tuberculosis of the Kidney—
J. M. Fettes, M.D., LeMars

7. Non-Tuberculous Infections of the Kidney—
M. J. Moes, M.D., Dubuque

Abstract: Pyelitis: surgical and non-surgical types, with diagnostic methods. Importance of differentiating associated conditions. The colon bacillus an important agent in urinary infections, both of the surgical and non-surgical varieties. Any obstruction, temporary or permanent, to the outflow of urine predisposes to infection. Majority of cases of pelvis of the kidney infection due to an ascending type. Importance of proper x-ray and cystoscopic examin-

ations with ureteral catheterization, and animal inoculation. Pus or blood in urine demands thorough investigation until its source is definitely determined. Recurrent and persistent types of inflammation mean that the cause has not been removed. Kidney infections a neglected field.

8. Tumors of the Kidney—
R. E. GREEN, M.D., Creston

Abstract: Primary malignant neoplasms of the kidney are rare; occur more frequently in men than in women; before the tenth and after the fortieth years; their course may be symptomless throughout; when diagnosed, the diagnosis usually is based upon the symptom of hematuria accompanied by a demonstrable renal tumor. Because of the possibility of a kidney tumor, the appearance of hematuria always demands immediate and certain explanation, particularly when occurring at either extreme of life.

9. Functional Tests and Pyelography in Diagnosis— N. G. ALCOCK, M.D., Iowa City

Abstract: These two subjects will be discussed only as they apply to those diseases of the kidney covered in the symposium. They will be especially treated in regard to their value in the diagnosis and indication as to treatment of these conditions. Their significance as to prognosis will also be discussed.

Of the renal sufficiency tests, the phthalein will be the one mainly to be considered and it will be considered almost entirely as it is employed in the separate renal test. Its technique will be very briefly described.

The technique of pyelography will be dealt with in some detail and also considerable space will be devoted to its dangers as heretofore held.

10. Summary— CHARLES J. ROWAN, M.D., Iowa City

Discussion led by A. M. POND, M.D., Dubuque; A. J. MCLAUGHLIN, M.D., Sioux City, and E. D. ROHLF, M.D., Waterloo. (*Time, including discussions, ninety minutes*)

11. Oration on Surgery—
VAN BUREN KNOTT, M.D., Sioux City, *thirty minutes*

12. Unusual Opportunities for Surgical Work and Original Research—
W. B. LAFORCE, M.D., Ottumwa, *twenty minutes*

Wednesday Evening, May 9
Social Entertainment

Thursday, May 10
9:00 a. m.

13. What is Not Rheumatism?—
W. H. RENDLEMAN, M.D., Davenport, *twenty minutes*

Abstract: Definition of rheumatism. The terms rheumatism, chronic rheumatism, arthritis deformans, rheumatoid arthritis, osteo-arthritis and others should be discarded. An etiological classification is preferable, as infectious, streptococcus, syphilitic, tuberculous, gonorrheal, arthritis. Focal infection and arthritis. Reasons why removal of a focus often fails to cure the arthritis. Conditions other than arthritis often called rheumatism. Removal of the focus and protein injections in the treatment of arthritis.

Discussion opened by J. W. SHUMAN, M.D., Sioux City, *five minutes*

14. Acidosis in Children—
FRED MOORE, M.D., Des Moines, *twenty minutes*

Abstract: Former misconceptions of acidosis; present conception; defences of the body against acidosis; diagnosis, prognosis, treatment, types observed in children.

Discussion opened by A. H. BEIFELD, M.D., Iowa City, *five minutes*

15. Acidosis in Surgery—
EVARTS A. GRAHAM, M.D., Mason City, *twenty minutes*

Abstract: Definition of term. Importance of knowledge of acidosis and the application of the conception to surgical problems. Clinical methods of determining the degree of acidosis. Methods of preventing and combating it.

Discussion opened by J. H. MCGREADY, M.D., Independence, *five minutes*

16. Address on Surgery—The Special Field of Neurological Surgery—
HARVEY CUSHING, M.D., Boston

17. The Value of Hygiene and Sanitation in Camp—
Major THOS. F. DUHIGG, Des Moines, *twenty minutes*

Thursday, May 10
2:00 p. m.

Symposium on Pleurisy

18. Symptomatology— J. W. OSBORN, M.D., Des Moines

Abstract: Historical note, failure to diagnose, frequency, occurrence as a complication, referred pain.

19. Etiology and Pathology—
GUTHRIE MC CONNELL, M.D., Waterloo

Abstract: Origin infectous ordinarily; causative bacteria few; generally secondary; pathologic changes those common to inflammation; primary changes in the pleura; characteristics of exudate; varities, fibrinous or plastic, serous, or purulent represent largely different degrees of inflammatory reaction; bacteria; secondary, lung changes.

20. Diagnosis and Prognosis—
W. J. K. FINDLEY, M.D., Sac City

Abstract: Symptoms, their meaning; diagnosis and differentiation of, (a) parietal, (b) diaphragmatic, (c) pericardial pleurisies, (d) varieties of serous effusions, (e) empyema. Prognosis, usually not so serious to life as to invalidity.

21. Non-Surgical Treatment—
ROBT. L. PARKER, M.D., Des Moines

Abstract: Relief of pain, rest, strapping, drugs, the salicylates, bryonia, potassium iodide, morphin. After treatment, fresh air, extra feeding, etc.

22. Surgical Treatment—
LAWRENCE W. LITTIG, M.D., Davenport

Abstract: Dry pleurisy, strapping, Forlanini; pleural puncture not without danger; with effusion, aspiration; with pus, thoracotomy, drainage with or without suction; sinus, Estlander, pleurectomy.

Discussion opened by JOHN H. PECK, M.D., Des Moines; F. J. ROHNER, M.D., Iowa City; OLIVER J. FAY, M.D., Des Moines. (*Time, including discussions, ninety minutes.*)

23. Address on Medicine—Some of the More Important Advances in the Diagnosis and Treatment of Tuberculosis—
F. M. POTTENGER, M.D., Monrovia, California

24. Treatment of Tuberculous Cervical Adenitis—
GEORGE DECKER, M.D., Davenport, *twenty minutes*

Abstract: Anatomy of lymph drainage area. Sternomastoid as guide to superficial and deep chains of glands. Pathological change in lymph gland due to tuberculosis—resolution—calcification abscess formation. Avenue of entrance of tubercle bacillus. Nasopharynx, adenoids, tonsils. Extention of infection from cervical glands into chest and general circulation. *Treatment*—Mild cases with no extention beyond cervical glands—best treatment non-surgical. Cases with associated tuberculosis in other parts of the body—surgical treatment of less value. Cases with broken-down glands—treatment should be surgical and include tonsillectomy.

Discussion opened by J. W. HARRISON, M.D., Guthrie Center, *five minutes*

Thursday, May 10
7:30 p. m.

25. President's Address— J. F. HERRICK, M.D., Ottumwa

26. Address: Disease of the Internal Ear in Its Relation to General Medicine—
GEORGE E. SHAMBAUGH, M.D., Chicago

Friday, May 11
9:00 a. m.

Symposium on Obstetrics

27. Pathology of Pregnancy: (a) General Disorders of Mother. (b) Toxæmia. (c) Need for more Accurate Care and Details of Care Essential During Pregnancy—
Paul Reed, M.D., Iowa City

28. Indication and Use of Drugs in Obstetrics—
Harry W. Vinson, M.D., Ottumwa

29. Management of Premature Labor and Obstetric Surgery Outside of Hospitals—
Charles N. Stevenson, M.D., Milton

30. Obstetric Accidents as a Cause of Gynecological Conditions— Wm. C. Kasten, M.D., Ft. Madison

Abstract: Child-bearing; is it normal or a pathological function? The immense amount of invalidism and discomfort resulting from child-bearing, a great part of which is unnecessary and preventable. Has obstetrics advanced in accordance with the other branches of medicine? How can we mitigate or prevent these results?

31. Summary of Symposium—
Frank M. Fuller, M.D., Keokuk. (*Time, including discussion, ninety minutes.*)

32. Oration in Medicine—
Max E. Witte, M.D., Clarinda, *thirty minutes*

OPHTHALMOLOGY, OTOLOGY AND RHINO-LARYNGOLOGY SECTION

Chairman
W. W. Pearson, M.D., Des Moines

Thursday, May 10
8:00 a. m.

1. Lues of the Eye— G. F. Harkness, M.D., Davenport
Discussion by H. B. Gratiot, Dubuque; C. C. Walker, Des Moines

2. Lues of the Nose and Throat—
F. W. Bailey, Cedar Rapids
Discussion by C. F. Howland, Des Moines; F. A. Will, Des Moines

3. Tuberculosis of the Larynx—
R. M. Lapsley, Keokuk
Discussion by H. P. Engle, Newton, Lillie Kinnier, Dubuque

4. Normal Labyrinth— E. R. Lewis, Dubuque
Discussion by F. G. Murphy, Mason City; R. R. Snyder, Des Moines

5. Acidosis and Acetonuria—F. A. Stevens, Iowa City
Discussion by R. H. Parker, Des Moines

Symposium—Accessory Sinuses of the Nose

6. Symptoms and Diagnosis—
C. M. Werts, Des Moines
Discussion by F. E. Franchere, Sioux City

7. Non-Operative Treatment—
H. G. Langworthy, Dubuque
Discussion by S. A. O'Brien, Mason City

8. Operative Treatment— F. E. V. Shore, Des Moines
Discussion by Edw. Cobb, Marshalltown, F. P. Lierle, Marshalltown

9. End Results— L. W. Dean, Iowa City
Discussion by R. F. French, Marshalltown

Geo. E. Shambaugh, Chicago, will address the General Session Thursday evening on: Disease of the Internal Ear in Its Relation to General Medicine.

MEETING PLACES

Headquarters—The Chamberlain, Seventh and Locust Streets

General Meetings—Shrine Temple, Ninth and Pleasant Streets

House of Delegates—Parlor, The Chamberlain

Eye and Ear Section—Ballroom, The Chamberlain

Registration and Exhibits—Shrine Temple

Headquarters for Ladies—The Chamberlain

Rules for Papers

No paper before the Society shall occupy more than twenty minutes in its delivery; and no member shall speak longer than five minutes nor more than once on the same subject. This does not apply to the addresses and orations.

All papers read before the Society shall be its property. Each paper shall be deposited with the Secretary when read, and if this is not done, it shall not be published.

On arising to discuss a paper, the speaker will please announce his name plainly.

Please remember to REGISTER.

OFFICERS

1916-1917

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J. F. Herrick.....Ottumwa

PRESIDENT-ELECT
J. N. Warren.....Sioux City

FIRST VICE-PRESIDENT
C. B. Taylor.....What Cheer

SECOND VICE-PRESIDENT
C. A. Boice.....Washington

SECRETARY
T. B. Throckmorton.....Des Moines

TREASURER
T. F. Duhigg.....Des Moines

EDITOR
D. S. Fairchild.....Clinton

COUNCILORS

	Term Expires
1st. District—John R. Walker, Ft. Madison	1920
2nd. District—Henry Albert, Iowa City	1917
3rd. District—W. A. Rohlf, Waverly	1921
4th. District—Paul E. Gardner, New Hampton	1919
5th. District—G. E. Crawford, Cedar Rapids	1918
6th. District—S. A. Spilman, Ottumwa	1918
7th. District—Channing G. Smith, Granger	1919
8th. District—J. F. Aldrich, Shenandoah	1919
9th. District—A. L. Brooks, Audubon	1917
10th. District—W. W. Beam, Rolfe	1921
11th. District—G. C. Moorehead, Ida Grove	1920

TRUSTEES

J. W. Cokenower, Chairman, Des Moines	1919
D. H. Bowen, Waukon	1918
T. E. Powers, Clarinda	1917

DELEGATES TO A. M. A.

J. C. Rockafellow, Des Moines	1917
L. W. Littig, Davenport	1918
M. N. Voldeng, Woodward	1918

ALTERNATES

F. M. Tombaugh, Burlington	1917
D. H. Bowen, Waukon	1918
J. Lynn Crawford, Cedar Rapids	1918

COMMITTEES

MEDICO LEGAL

D. S. Fairchild, Clinton.....1918
H. B. Jennings, Council Bluffs.....1919
Lewis Schooler, Des Moines.....1917

HEALTH AND PUBLIC INSTRUCTION

Paul E. Gardner, New Hampton.....1918
Jeannette F. Throckmorton, Chariton.....1917
Henry Albert, Iowa City.....1919

Constitution and By-Laws—D. C. Brockman, Ottumwa; V. L. Treynor, Council Bluffs; M. J. Kenefick, Algona.

Conservation of Vision and Hearing—H. G. Langworthy, Dubuque; T. U. McManus, Waterloo; J. E. Reeder, Sioux City.

Publication—Tom B. Throckmorton, Des Moines; W. L. Bierring, Des Moines; F. W. Porterfield, Waterloo.

Scientific Work—J. F. Herrick, Ottumwa; Tom B. Throckmorton, Des Moines; Thos. F. Duhigg, Des Moines.

Finance—W. W. Pearson, Des Moines; C. P. Frantz, Burlington; C. J. Saunders, Fort Dodge.

Public Policy and Legislation—T. F. Duhigg, Des Moines; B. L. Eiker, Leon; W. S. Conkling, Des Moines; the President and the Secretary.

Special Committee on Workmen's Compensation—D. S. Fairchild, Clinton; H. C. Eschbach, Albia; Lewis Schooler, Des Moines.

Arrangements—J. F. Herrick, Ottumwa; Tom B. Throckmorton, Des Moines; Thos. F. Duhigg, Des Moines; Lewis Schooler, Des Moines, and A. P. Stoner, Des Moines.

HOUSE OF DELEGATES

Meeting Place—Parlor, The Chamberlain

Wednesday, May 9
4:00 p. m.

Roll Call
Report of Secretary
Report of Treasurer
Report of Council
Report of Trustees
Report of Standing Committees
Memorials and Communications
New Business
Election of Committee on Nominations

Thursday, May 10
8:00 a. m.

Roll Call
Reading of Minutes
Report of Committee
Unfinished Business
New Business

Friday, May 11
8:00 a. m.

Roll Call
Reading of Minutes
Report of Committee on Nominations
Election
Report of Committees
Unfinished Business
New Business

ENTERTAINMENT

Wednesday, May 9

Reception for the Visiting Ladies, Mezzanine, The Chamberlain. Two-thirty to five.

Banquet, The Chamberlain, physicians and their wives and guests. Six-thirty.

Thursday, May 10
2:00 p. m.

Theater party for the ladies at the Orpheum.

State Society Iowa Medical Women

Twentieth Annual Session
Des Moines
May 8, 1917

OFFICERS
1916-1917

PRESIDENT

DR. LILY KINNIER.....Dubuque

VICE-PRESIDENT

DR. LAURA BRANSON.....Iowa City

SECRETARY

DR. JEANNETTE F. THROCKMORTON.....Chariton

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Dr. Mary Coveny.....Clinton
Dr. Kate A. Mason Hogle.....Mt. Vernon
Dr. Agnes Eichelberger.....Sioux City
Dr. Lenna L. Means.....Des Moines
Dr. Jennie Ghrist.....Ames
Dr. Georgia Stewart.....Des Moines
Dr. Florence Brown Sherbon.....Colfax
Dr. Kate Harpel.....Boone
Dr. Sophia Hinzie Scott.....Des Moines

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Dr. Nancy M. Hill.....Dubuque
Dr. Jennie Ghrist.....Ames
Dr. Clara Cronk.....Bloomfield

CONSTITUTION

Dr. Pauline Hanson.....Marshalltown
Dr. Mary Heard.....Iowa City
Dr. Jessie Hudson.....Clinton

ETHICS

Dr. Mary Coveny.....Clinton
Dr. Mary Killeen.....Dubuque
Dr. Evaline Peo.....Boone

FEDERATION

Dr. Jennie McCowen.....Davenport
Dr. Julia Donahue.....Burlington
Dr. Kate A. Mason Hogle.....Mt. Vernon

PUBLICATION

Dr. Grace Jerger.....Waterloo
Dr. Sophia Hinzie Scott.....Des Moines
Dr. Grace Schermerhorn.....Clinton

ARRANGEMENTS

Dr. Lenna L. Means.....Des Moines
Dr. Nellie Noble.....Des Moines
Dr. Margaret Armstrong.....Des Moines

MEMBERSHIP

Dr. Nellie Noble.....Des Moines
Dr. Rosina Wistein.....Cedar Rapids
Dr. Agnes Eichelberger.....Sioux City

CHILD WELFARE

Dr. Kate Harpel.....Boone

Headquarters—The Chamberlain

Meetings—Banquet Room, Parlor Floor

Program

Tuesday, May 8
9:00 a. m.

Call to Order by President
Reports of Committees
Communications
Business

11:00 a. m.—12 m.

Visiting Hospitals and Auto Ride

12:30 p. m.

Luncheon, Younker's Tea Room
By Chamber of Commerce and Women's Clinical Society

2:00 p. m.

Address of Welcome—
Mrs. William McHenry, Des Moines

Response— Dr. Josephine Wetmore Rust, Grinnell

President's Address— Dr. Lily Kinnier, Dubuque

Urinalysis and Kidney Diagnosis—
Dr. Nellie Noble, Des Moines

Carcinoma: Treatment—Past, Present and Prospective— Laura House Branson, M.S., M.D., Iowa City

Eye Strain and Higher Education—
Dr. Mary K. Heard, Iowa City

Medical Observations in China—
Dr. Anna Gloss, Wilmette, Illinois

Banquet, 6:30 p. m.

Banquet, Harris-Emery's Tea Room
Election of Officers

8:30 p. m.

Theater Party, Orpheum

SECURE YOUR RESERVATIONS EARLY

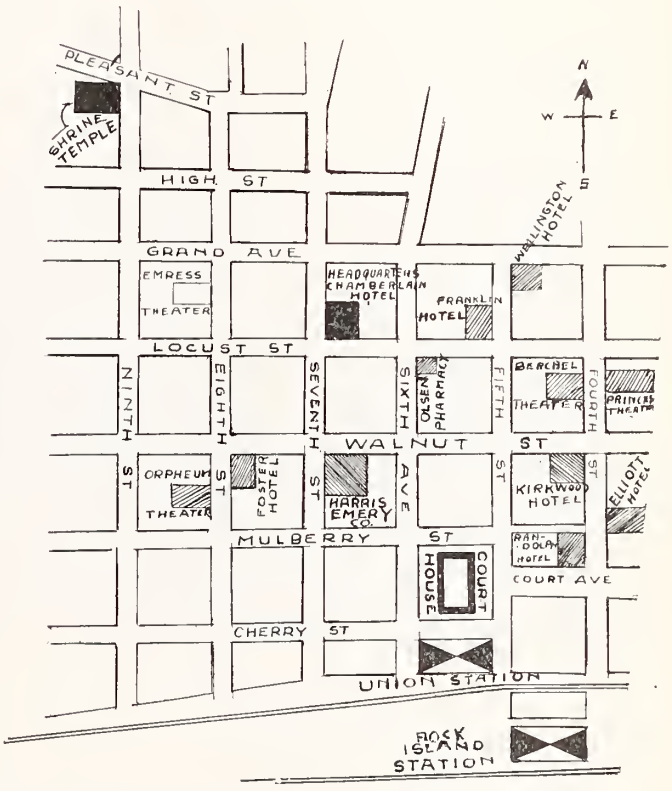
The Arrangement Committee takes special pride in calling the attention of the profession to the hearty and liberal support given the Journal by the local hostelry and business firms. Visiting physicians and their families and guests will undoubtedly be pleased to refer to the advertising pages and note the accommodations offered them by such well known hotels as the Chamberlain, Kirkwood, Franklin, Wellington and Randolph. The managers of these hotels are anxious to serve the profession, and knowing that their service will be taxed to the utmost, have requested that those who are expecting to be present during the coming session of the Society, will secure their reservations early.

The department store of Harris-Emery's, an institution of which Des Moines may well be proud, will undoubtedly prove popular as a shopping center to many who wish to combine business with pleasure.

THE CUSHING-POTTENGER CLINICS

Plans are now in the nascent state to arrange for an afternoon of clinics following the close of the Friday morning session. In case the clinics materialize, and those who are now at work along this line have every reason to believe that plans will be perfected, Friday afternoon promises to be one of great profit and interest to those who are interested in neurologic and tuberculosis problems. Dr. Harvey Cushing has consented to hold a clinic on neurology, and Dr. F. M. Pottenger will conduct a clinic on tuberculosis. While a post-sessional clinic has never before been featured in connection with an annual session of the Iowa State Medical Society, it is believed that in arranging to have Drs. Cushing and Pottenger hold a clinic in their respective branches, that the Iowa profession will not only unanimously agree as to the wisdom of so doing, but that Iowa Medicine will be greater and better for having these men present facts from a purely clinical standpoint.

OFFICIAL GUIDE



Guide to Headquarters, Meeting Place, Hotels, etc.

IOWA CLINICAL MEDICAL SOCIETY

The Annual Meeting of the Iowa Clinical Medical Society will be held in Des Moines, May 8, one day previous to the meeting of the Iowa State Medical Society.

Clinics will be held at the hospitals in the forenoon, and a business session will be held in the afternoon, when all clinical cases will be discussed and the annual election of officers occur.

At the evening session Drs. Dunn of Omaha, McConnell of Waterloo and Rowntree of Minneapolis, will give addresses.

All members of the State Society and attending guests are cordially invited to the clinics and to the evening meeting, which will be held in the auditorium of the Chamberlain Hotel at 8 P. M.

Granville N. Ryan, Pres.

Des Moines

The City of Des Moines is not merely a state capital.

It is a commercial metropolis, of more than 100,000 population, and a great retail center, a manufacturing city of importance, and a jobbing center.

It is a city of modern achievements and possessions. Few things necessary to the modern city, either in convenience or comfort, are lacking, if any. There are boulevards, parks, adequate public buildings, good pavements, churches, schools, hospitals, sanitaria, good light and plenty of it, good car service, a splendid public library with the state and other libraries, colleges and universities, musical and technical institutions, playgrounds, recreational and housing campaigns certain of results.

Des Moines originally had narrow streets. These are being cared for from time to time. A widening process is being put into operation. More than one great artery has already felt this; and the list is long.



State Capitol

Careful attention is paid the schools. There are upwards of sixty grade schools, with excellent reputation. There are three great high schools and manual training and prevocational schools. There is great Drake University; and other colleges and universities like Highland Park, Des Moines and Danish. There are commercial colleges of renown, and many famous music and art schools. Des Moines has an area of nearly sixty square miles. This is considerable, and is often felt from the standpoint of paving, policing, the fire cost, schools, etc., and yet the sweep of boulevards, pretty drives, handsome outlying residential and park districts, atone for the costly area.

Capitol extension park, bringing into the area surrounding the state capitol building the finest park about any such institution in the country, is new, and is working out splendidly. Block after block was purchased, buildings razed, grounds grazed, drives, bridges, parking and various touches here and there added; until the fine old capitol building, one of a type almost lost, the old school building not a monstrosity as to architecture, or built with graft, has a fine setting.

The state fair, renowned throughout the country as a peculiarly leading institution of its kind, and the great speedway at the other end of town, form the ends of a



East High School



Historical, Memorial and Art Building

nine-mile sweep of widened, beautiful Grand avenue, the state's finest thoroughfare.

The town has cultivated hospitality. It has an organized convention bureau working in its Chamber of Commerce which tries to inculcate locally and to pass out to visitors the finest kind of hospitality and courtesy. It knows how to treat the stranger within the gate, and that is a fine town asset. The convention bureau spends more than $11,000 per annum in this kind of work.

A Civic Center is a recent acquisition. Already, the ugly old river bank is lined with many sightly buildings, with at least two more in prospect. The beautiful municipal building is there; the public library and the federal postoffice are in existence. The Coliseum, a great public meeting place, stands in Civic Center. The new federal court house and the



Drake University

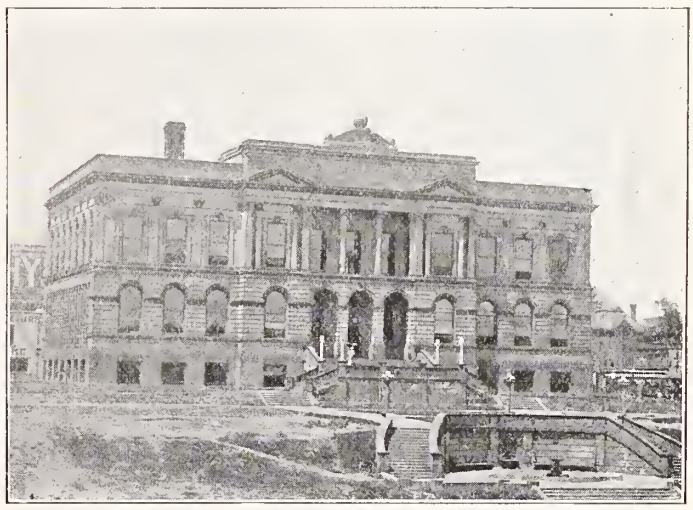
new municipal court and jail will be two additional buildings soon. A municipal art gallery is a dream for the future.

In manufacturing, Des Moines has 400 establishments, which employ 7,000 persons; with a capitalization of nearly thirty millions and an annual outturn of that amount. These establishments make practically everything required; but printing, woodworking and iron products, baking, and work garments are leaders.

In jobbing, an annual volume of nearly seventy-five millions is the record. Practically all lines are filled.

Des Moines has the usual quota of splendid professional men who add to the civic and commercial importance of the city; and who are strongly banded together in the town work in its organizations.

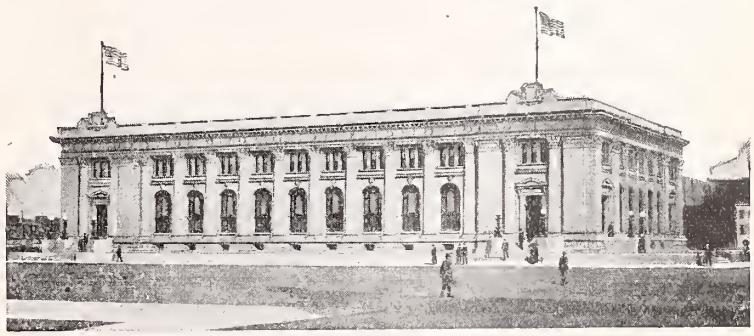
The committee on arrangements are indebted to Mr. Ralph H. Faxon, general secretary of the Chamber of Commerce for this terse presentation concerning the interesting points connected with Des Moines and its development. This committee, through Mr. Faxon, wish to extend to the visiting physicians, their wives and friends, the courtesies of the city, and trust that during their stay they will take



Public Library

advantage of the opportunity to visit the various commercial, educational and other enterprises here established, and to feel that the "City of Certainties," is indeed, more than merely a local municipality—it is a part of and owes its development, to a certain extent, to the people of the State of Iowa.

Committee on Arrangements—J. F. Herrick, M.D., Ottumwa; Tom B. Throckmorton, M.D., Thos. F. Duhigg, M.D., A. P. Stoner, M.D., and Lewis Schooler, M.D., Des Moines.



Postoffice

DON'T WAIT TO BE ASKED—COME TO DES MOINES, MAY 9, 10, 11

AUTOBIOGRAPHICAL NOTES

The early life of Dr. Archelaus G. Field was characterized by extreme privations and strenuous exertion. Grubbing hazel brush for a garden spot with a hatchet; trapping muskrats and groundhogs for their pelts, the former sold as fur, the latter tanned in wood ashes, water and soft soap, cut and braided into whip-lashes and sold for revenue; planting and hoeing corn from early morning to sundown for twenty-five cents a day; milking two cows all summer for their two calves, which he trained to be oxen; walking three miles a day and return to school; teacher's certificate to teach English branches and pedagogy at fifteen; reading medicine and toting medical saddlebags at twenty, are some of the outstanding incidents in a life that has providentially been extended well past its eighty-seventh birthday.

He was born November 15, 1829, in Gorham, Ontario county, New York, his father being Dr. Abel Wakely Field, a native of Bennington, Vermont, and his mother Zilpha Witter Field, a native of Ontario county, New York. He was the eldest of three brothers, all of whom reached manhood; his brother Orestes G. having been a distinguished surgeon in the War of the Rebellion, and the youngest, James W., still living and a retired capitalist of Marysville, Ohio.

In 1839 his parents removed from Ontario county, New York, to Madison county, Ohio. His first commercial transaction was with his father, whereby he agreed to milk two cows all summer and winter for their two calves. These calves were his first team. He made his own sled and ox-yoke, and has a scar on one of his shins where he was hit by a drawing knife in smoothing the tongue of his sled. He also bears another scar in one of his eyebrows where he was hit by a refractory hickory stick which he was bending for an ox-bow.

His first real nice suit of clothes was made up by his mother. He paid eighteen cents a yard for the cloth for the coat, thirty-seven cents a yard for cloth for pants (both blue check), seven cents for calico to make a vest, and sixty cents for silk for a cap.

From twelve to twenty may be considered the formative period of life. In seeking employment he went on foot, and more than once took lodging for the night by a wayside hay or straw stack to save expense of a better bed. During this time he alternately worked on a farm, taught school, attended academies, and read medicine as well as he could. He began the practice of medicine at the age of twenty with some measure of success and popularity.

In 1850 he joined a company of emigrants from Madison county, Ohio, to Appanoose county, Iowa, and located in Centerville. He was also appointed deputy sheriff, and in that capacity assessed and took the census of a large part of Appanoose county.

In 1853 he entered the office of Prof. John Dawson, of Columbus, Ohio, and attended the session of 1853-'54 of Starling Medical College, from which he graduated, three years' practice being accepted in lieu of one course of lectures to meet requirements of the institution. He then located at Hillsboro, Ohio, removing to Jacinto, Mississippi, in the Autumn of 1856. In 1859 he located in Corydon, Iowa.

In 1861 he was elected president of the Wayne County Agricultural Society, by virtue of which office he became a member of the state agricultural board, a meeting of which at Des Moines he attended in the Winter of 1861. He was so impressed by the fitting topography for a city that he decided to make it his future home, and removed thither in 1863, but soon left for New York City, where he matriculated at Bellevue, University of New York City, and College of Physicians and Surgeons, graduating from the latter at the close of the session of 1863-'64. Returning to Des Moines in May, 1864, he was elected city physician, and also physician for Polk county. He was also appointed examining surgeon for pensioners, which office he held, either singly or as secretary of the board, for eighteen years, resigning when he was appointed a member of the board of review in the Pension Department, Washington, D. C.

In 1869 he was elected to the chair of physiology and pathology in the College of Physicians and Surgeons, Keokuk, Iowa. In the same year he was elected secretary of the Iowa State Medical Society, and was re-elected in 1870 and also in 1871. In 1872 he was elected president of the Society. In 1876 he was a delegate to the International Medical Congress in Philadelphia.

In 1879 he attended a term in the law department of Simpson Centenary College, from which he secured a degree of L.L.B. He is a member of the State Bar Association and of various medical and scientific societies.

He was twice elected mayor of North Des Moines, during which terms there was not a municipal lawsuit nor a dollar of bonded indebtedness. He located and gave the ground for Eleventh, Twelfth and Thirteenth streets from University avenue to Forest avenue. He has

been no small factor in the building of Des Moines, having built more than a mile each of paving, curbing, sidewalks and sewers. In addition he has built eighteen good eight and nine room residences.

In May, 1877, he married Hattie Weatherby, of Cardington, Ohio, who passed to her richly deserved reward in January, 1909. Three children were born to the union, Dalton Arthur, born December 19, 1884, being the only survivor. He was named after Prof. John C. Dalton of the College of Physicians and Surgeons, New York, at the time of his father's graduation from said institution, and because his father occupied the corresponding chair in the College of Physicians and Surgeons at Keokuk at the time of his birth, and who at the same time was also an appointee of President Arthur on the board of reviews in the Pension Department, Washington, D. C.

October 17, 1906, Dalton married Ona Curtis, an estimable lady, a good wife and a splendid mother. Three little misses are the fruit of the union: Louise, Helen Weatherby and Doris Zilpha.

In politics, Dr. Field is a prohibition Republican; in religious sentiment, a Calvanistic Presbyterian.

A. G. FIELD TESTIMONIAL SESSION POLK COUNTY MEDICAL SOCIETY

November 28, 1916

Dr. A. G. Field, eighty-seven years of age, and sixty-six years in the practice of medicine, delivered before the Polk County Medical Society, a lecture illustrated with lantern slides on methods of microphotography, worked out by himself forty years ago. Many of the specimens presented on this occasion, had remained in Dr. Field's collection for that period of years. The slides were not arranged with reference to illustrating any particular subject, but simply to call attention to methods employed by an industrious microscopist in comparatively early times. Some of these slides represented studies in entomology. There were several slides illustrating histologic and pathologic anatomy, to which Dr. Field at this time gave considerable attention. We are not able to furnish a list of the numerous photomicrographic specimens brought out. Suffice it to say that the amount and excellence of the work was a veritable surprise to a large audience of medical men and women of a generation that had grown up since Dr. Field began his scientific work, very little of which has been published.

It was about forty years ago that Dr. Field with several other gentlemen interested in science, convened at Iowa City for the purpose of organizing the Iowa State Academy of Sciences. Dr. Field became a charter member of this organization. The inspiration growing out of association with men interested in scientific studies, at that time out of the accepted domain of medicine, led



DR. A. G. FIELD

Dr. Field to take up certain features of microphotography. Dr. Field, more fortunate than many medical men, had made profitable investments in real estate in the City of Des Moines which afforded him a degree of leisure that made it possible to carry out some plans he had formed in relation to microscopic technic.

Dr. Field did not abandon the practice of medicine, but continued in the field until comparatively recent years. The profession of Polk county, and indeed the profession of the state, might feel under some obligation to recognize the usefulness of Dr. Field in the practice of medicine. He became a member of the State Medical Society in 1865, and was elected president in 1872. Prior to his election as president, he had served as secretary of the State Society, and had at various times served on important committees. He is the only living member of that body of medical men who signed the first article of incorporation of the State Society.

The Journal felt that it was fitting that this testimonial should be published together with a biographical sketch of one of the few living members of the earlier Iowa physicians.

JAMES TAGGART PRIESTLEY, M.D.

In April, 1878, the old Polk County Medical Society which had dropped into innocuous desuetude, was rejuvenated by the efforts of a few individuals, among them being our honored member Dr. A. G. Field and myself.

I had been here about a year and a half and had plenty of time for medical society formation, but was sadly in need of the one dollar that was necessary as an initiation fee along with dues of some six dollars a year. The fractional amount of Hebrew blood that I have in my veins must have been active as I remember that it was at my suggestion that it was made a part of the by-laws that the secretary be allowed 4 per cent. for collecting the dues, and that I promptly ran for secretary. The Society decided that my office companion, Dr. J. F. Kennedy, who, for many years was the competent secretary of the Iowa State Medical Society, was a better man, and needed the money compensation as much as I.

The Society had great ideals, some of which were not obtained; for example, we planned for a library board, and formulated the duties of the members of that board. Asking our present and most efficient secretary, Dr. Duhigg, for the library, he sent me two old books and some loose leaves containing the proceedings of the Society from 1898 to 1916; most of these were written with a pen; only those of the last few years being typewritten. These notes are an example of how much better the ordinary physician is when he can put the clerical work on the non-medical typist.

A social committee was also formed, but my memory fails to remember any social events except mental gymnastics and pyrotechnic display incidental to some mental sparks thrown out that generally lodged on some hypersensitive individual's conjunctiva. Some of these events were extremely interesting, especially when my friends Drs. Lewis Schooler and Woods Hutchinson would lock horns. We were extremely cautious about expelling members for unbecoming conduct. It required twenty members to be present; one officer and three members constituted a quorum. Twenty members being an unknown quantity, nobody ever was expelled. I do not remember that any should have been expelled.

One of the strongest by-laws was: "It shall be the duty of all the members of the Society to cultivate the science of morbid anatomy by making postmortem dissections in all proper cases and by preserving specimens for the benefit of the Society." Trying to conform to this law was rather costly to me. On one occasion I was arrested and brought before the grand jury. The jury came near finding a true bill against me, for having taken away a part of the liver of a cadaver. Had I not been fortunate in having a friend on the jury, such as my good old friend Michael O'G....., of this city, I certainly would have been convicted. For many years Michael was an alderman in this city, and a good alderman he made too. Year after year they tried to defeat him. Failing in this they finally re-districted the city and succeeded in eliminating him from the council.

Some years ago, our friend and representative, His Honor James B. Weaver, was trying a case in court. Before the trial began, a little old-fashioned gentleman came out from the jury panel, walked up and down in front of Mr. Weaver and remarked to him. "Your name is James B. Weaver?" Weaver replied, "Yes, I am James B. Weaver, Jr." "Then you are the son of my old friend Colonel Weaver?" "I am." "Ah! and a nice man he was too, and you're his son?" "Yes." The Irish gentleman went back and resumed his seat. Much to the pleasure of Mr. Weaver, the case was decided in his favor. Mr. Weaver had forgotten the interesting case, but, a few months ago the little Irish gentleman was out calling upon an old time friend who was visiting here in the city, Mr. F. M. Mills, and he and Mr. Weaver met again. Michael remarked, "Mr. Weaver, do you remember that case you had in court?" "Oh yes! very well, you mean the so and so case?" "Yes, that I got the nice judgment in." "Yes, it was a nice case indeed." "Ah! Mr. Weaver didn't we lick hell out of them that time?" One of my friends helped to lick hell out of them in this particular case.

Autopsies were made special meetings of the old Polk County Medical Society and were very enjoyable, very interesting and very instructive. Another incident that comes up to my mind was that of the Baron Pierre von Liedica. The Baron had an obscure trouble. A number of us had visited him. He had a mass in the abdomen. We were unable to make out the character of the mass. Finally the Baron died. He was an expatriated Austrian nobleman who lived all alone in a house on Capitol avenue. We decided on a postmortem and invited the Society. Most all were present. On making the autopsy we found the man had a pancreatic cyst that caused his death. We all looked at one another, and thought what egregious asses we were, that we had been unable to make a diagnosis. Something was needed to soothe our feelings. I noticed two cases of beer standing in the hall as I came into the house. An inspiration struck me. I called

the old housekeeper. I said, "Madam, we need some whiskey or alcohol to preserve this body; is there any in the house?" "Not a bit doctor." "Anything else?" "Some beer." "That will do, madam. Bring in at least two cases; beer is so much weaker than whiskey it will take quite a quantity to preserve the body."

That autopsy taught us a lesson. It was not more than a year after that, a man made his appearance in my office, and I was able to diagnose a pancreatic cyst, and referred him to the late Dr. Fenger for operation. Dr. Fenger operated on him, and sent him home, and told him that a man who was able to diagnose a pancreatic cyst, was certainly competent to take care of the after treatment.

Another special meeting that I remember very vividly, was over the body of a Scandanavian, and we were all gathered around the corpse, when in came the brilliant Patchin. I think it was our friend Lewis Schooler here, who said, "Doctor, allow me to introduce to you Mr. Johnson." Patchin acknowledged the introduction in his usual courtly style, but no response from the Scandanavian. Turning on his heel, he said, "Huh! it's not the first time that I have been coldly treated by a Scandanavian."

The usual place of meeting was in the offices of the different physicians. Somehow, there existed then that peculiar little narrowness of the medical profession, of getting annoyed at one another, and accepting the statement of a patient which was derogatory, as the truth, instead of asking, as we should have done, of one another, whether there was anything wrong. This feeling was so often found, that some members did not like to go to some other members' offices. Consequently our meetings were frequently limited on that account. Sometimes the offices were cold; we didn't have a fire in the shape of steam heat then, we had to fire up our own stove. I remember a meeting of the Society that was to be held at our office—Dr. J. F. Kennedy and myself were office companions for many years—when the old stove pipe was found full of soft coal soot; we tried to remedy it, we smoked the whole Society out, and some hypercritical individual intimated that it was done purposely, as there was some particular measure that we did not want to be carried at that meeting. Later on we got a public place of meeting in the court house, where we could all meet and get along very well.

The requirements of the membership were not very great. Two months after being made a member it was necessary to read a paper, present a clinical case, or the history of some interesting case, or some scientific advancement, so a member had a long range to choose from, and it was generally carried out, although the reading of a paper was not a common event.

Our meetings were occasionally graced by out of town physicians of note. Our friend, Dr. Fairchild, who afterwards became a most active and efficient member, would sometimes visit us, and we had many other visiting members from out of town, particularly during the winter that the legislature was in session.

Our membership was not large; I think in 1898 we only had fifty some members, and now I understand we have one hundred and fifty-two. While it was a county society in name, in reality it was a Des Moines Society.

Des Moines in 1878 had 22,000 inhabitants; this number has gradually increased. Des Moines has always been a good town for the medical man; it has never had very many rich, nor very many poor. The most of the inhabitants were able to pay their bills, and collections were good. It has always been rather a favorable place for the medical profession.

The farming community around is good. Besides, in the early days the price of living was very moderate. I remember that I paid as high as fifteen cents a bushel for potatoes, which was rather unusual. Six cents a pound for the best tenderloin steak, and all other things were in proportion. Flour and butter were cheap, so that we lived very easily on a very small income, and for some of us the income was very small. It is hardly necessary for me to call your attention to the difference in the price of living of today.

We had the usual fee bill which was carried in force, more or less, until we found that it was unconstitutional to have a fee bill, the courts having decided that a fee bill was evidence of a trust. The fees were very generous then in proportion to the cost of living; the fees have not increased as they should.

Among the most early and active members of the whole Polk County Medical Society, are two or three that are as active now as they were then, always on hand, always with interesting cases, and always a source of a great deal of pleasure to us all. I refer to our friends Dr. Lewis Schooler, Dr. Fairchild, Dr. Smouse and Dr. Field.

We worked under the old constitution until 1903 when the new constitution as suggested by the American Medical Association for county medical societies, was adopted.

Many have come—many have gone—many have gone to that realm from which no traveler returns—many have gone into that professional obscurity from which there is no come back, but

the men with industry, a knowledge of the art of medicine as well as of the science, are still here, and some of them like our friends Fairchild, Schooler, Smouse and Field, are giants that have power to put pygmys on their shoulders that they may see farther than they.

THE IOWA STATE MEDICAL SOCIETY 1865-1915

D. S. FAIRCHILD, M.D., Clinton

At the close of the Revolutionary War, there was a great undetermined area of country which was known as "The Great Northwest." Little was known of this section except to those connected with the northwest fur trade and to the French explorers, particularly Father Marquette and Father Hennepin, the latter extending his explorations to the upper Mississippi and the Minnesota valley, and the former below the mouth of the Wisconsin river to the mouth of the Des Moines. At Detroit, Cadillac had established a trading post for the Indians and a chain of forts had been extended from Detroit and down the Illinois river to St. Louis and New Orleans, which at the time of the Revolutionary War, was probably saved to the United States by George Rogers Clark. What lay west of the Mississippi river, but little was known until 1804, when under the direction of President Jefferson, Lewis and Clark made their famous journey from the mouth of the Missouri river to the mouth of the Columbia.

In a portion of this great northwest was a family group of states that originated from what was known as the Michigan Territory. This comprised what was known afterwards as Michigan, Wisconsin, Iowa, Minnesota and North and South Dakota. The Illinois country did not belong to this group, but to that portion of the northwest to which Ohio and Indiana belonged. The name "Iowa" was first applied to a small section of Michigan Territory and was designated as that section of country lying south of the Wisconsin river, west of Lake Michigan, east of the Mississippi river, and north of Illinois.

It appears that in 1829 a bill was introduced into the Michigan Territorial legislature in accordance with a resolution formerly presented by Dr. Wm. Brown, of Wayne county, Michigan, setting off the above mentioned Iowa county. The same bill made Mineral Point the county seat. This is the first knowledge we have of the name "Iowa" being given to any territory. The question as to who suggested the name "Iowa" lies between Dr. Wm. Brown and Mr. Schoolcraft, the well known traveler among the Indians, with the presumption in favor of Dr. Brown. It will thus appear that Iowa owes her name to a physician. It will be seen that the entire country bearing the name of Iowa at that time was in what is now Wisconsin. The Iowa county was afterwards divided into numerous counties, but there still remains a county in Wisconsin known as Iowa county, and the county seat is Mineral Point.

In October, 1835, George W. Jones, delegate to Congress from the Michigan Territory, secured the passage of a bill creating Wisconsin Territory including the Iowa country lying west of the Mississippi river, Minnesota and Dakota.

In 1834 a bill was passed to divide the Iowa district into two counties, Dubuque county and Des Moines county, by running a line due west from the lower end of Rock Island.

In 1838 a bill was passed by Congress, establishing the territory of Iowa, which included Minnesota and Dakota.

In 1833 Dr. Frederic Andros opened an office in Dubuque, five years before Iowa was set off from the Wisconsin territory.

In 1836 the census of Iowa was 10,531. This census was taken three years after Dr. Andros located in Dubuque.

Following the location of Dr. Andros in Dubuque, appeared a number of medical men in Burlington, the county seat of the new Des Moines county, at which place the last Wisconsin Territorial legislature met.

Preceding the location of Dr. Andros in Dubuque, or in 1829, Dr. Galland attempted to build a town where Montrose now stands, but settlers appeared in Keokuk which on account of its location at the head of navigation, outstripped Nashville, as it was then called, and Dr. Galland failed to build the city he expected, but it was there the first school was organized in Iowa, and there the first white child was born, Elinor Galland. Dr. Galland did not come to Nashville to practice medicine as Dr. Andros did at Dubuque, but for the purpose of land gatherings and speculation.

We read of Dr. Muir, an army surgeon, graduate of Edinburg, who accompanied the soldiers along the Mississippi river in 1820. About this time Dr. Muir married an Indian girl of the Sac nation, and was mainly stationed at Warsaw, Illinois. When the order was promulgated by the War Department requiring the United States officers who had married Indian wives, to abandon them, Dr. Muir refused to comply with the order and resigned. We do not learn that he engaged in the practice of medicine but was interested in land speculation. He died of cholera in

1832. After his resignation from the United States service, he lived mostly on the west side of the river where his land was located and was the first settler of Keokuk.

We read too of a Dr. Jarote who was connected with the Dubuque mines, which at that time belonged to the Indians. The white men drove the Indians away from the mines, and when the Indians complained to the Government, the white men were in turn driven away, and the mines were occupied alternately by white speculators, and the rightful Indian owners, until the close of the Blackhawk War when northern and eastern Iowa was ceded to the United States. From this time on, settlements sprang up along the Mississippi river, and some interior sections, as at Fairfield, Mount Pleasant, Iowa City, Keosauqua and Washington, bringing with them medical practitioners.

In 1850, through the influence of Dr. Sanford who at that time lived in Davenport, and who on May 1, 1849, attended the meeting of the American Medical Association at Boston, the State Medical Society was organized, with Dr. E. Lowe, Burlington, president; Dr. Elbert, Van Buren, first vice-president; Dr. McGugin, Keokuk, second vice-president; Dr. Sanford, Keokuk, corresponding secretary; Dr. G. R. Henry, Burlington, treasurer; Dr. John F. Dillon, Farmington, librarian. The membership at that time, including officers, was twenty-five.

In 1850 a medical journal was established in Keokuk, known as the Western Medico-Chirurgical Journal, edited by Dr. J. C. Hughes. In 1854 the name was changed to that of the Iowa Medical Journal. So far as we have been able to ascertain, only the first volume of the Western Medico-Chirurgical Journal is in existence, the property of Dr. Fuller, of Keokuk. Four copies of the Iowa Medical Journal, including the first number, also published in Keokuk, was obtained by us through Dr. Moorehead from the library of Dr. J. C. Hughes.

The Iowa State Medical Society continued to hold its meetings with a gradual increase in membership until the beginning of the period in the history of the State Society considered in this paper under the title of "The Iowa State Medical Society, 1865-1915."

The fifty years history that we are about to enter upon, comes within the purview of men still living, and many things have transpired in that period that have passed into history and forgotten. In 1865, Dr. A. G. Field, of Des Moines, became a member of the State Medical Society, and took a leading part in its conferences. We find in the same year that the board of censors consisted of M. B. Cochran, S. B. Thrall, A. G. Field, J. M. Shaffer and James Gamble. In 1866, the censors were changed so as to include Wm. Watson, James Gamble, A. G. Field, M. J. Shaffer and J. Williamson. Dr. Field was apparently preparing himself for a higher position in the Society, and in 1867, '68, '69, the name of Dr. A. G. Field appears as recording secretary. Passing along two years later to 1871, we find that Dr. A. G. Field had been advanced to the honorable position of president of the Iowa State Medical Society. Dr. Field had been preceded by Dr. Wm. Watson, of Dubuque, who says in his presidential address, 1868:

> As this sixteenth annual meeting forms an epoch in its history as the first ever held at the state capitol, let us regard it as an indication of the realization of our long cherished hope that the influence of the Society is being extended and that it will continue to extend until it shall be felt over the entire state and at each succeeding meeting, all parts of the state shall be fully represented.

Again Dr. Watson says:

> The existence of this Society has infused new life into some old, and stimulated the formation of many new, local societies. It has also secured the preservation of the records of many important cases and facts.

Dr. Watson still further says:

> One great difficulty of the past, now partially removed and rapidly disappearing each succeeding year, has been the want of direct, speedy and economical means of communication between different sections of the state; another has been the migratory character of the meetings, which has resulted in but a limited number of the same men being brought together at successive meetings; yet notwithstanding these unfavorable influences, it has made substantial progress in the accomplishment of its objects, and every friend of the thorough organization and progress of the profession should give it his cordial support, and determine with renewed energy, that succeeding years shall be characterized by more marked results than did the past.

Dr. Watson in discussing the subject of vital statistics, shows us that fifty years has seen but little accomplished in scientific legislation in Iowa. Dr. Watson in his address in 1868, speaks in this way:

> Another subject which is worthy of the attention of our lawmakers, is the establishing of some system of collecting and preserving the vital statistics of our state, by general and uniform registration of births, marriages and deaths, with the essential facts pertaining to each. The importance of such a provision will become more apparent as we increase in population and wealth, and upon the ground of self interest alone.

Dr. Watson still further says:

Our Society has done much good by promoting acquaintance and awakening cordial friendship among professional men residing in distant sections of the state, an acquaintance that was of great importance in organizing to perform the part assigned to the profession in the stirring events of the past six years. It can be said without boasting, or fear of contradiction, that the profession of no Western state have left a better record, or have been more faithful and untiring in the discharge of duty. The annals of every bloody field chronicle the heroic deeds of Iowa soldiers. So do the records of positions requiring executive ability, judgment, integrity and professional skill, show a prominent list of names taken from the "Iowa Surgical Staff," while the honored names of Reeder, Witter, McGugin, Fiske and others are among Iowa's martyred heroes.

As I have remarked, a survey of our present position as a state organization, with a view to its future action and influences, reveals much to stimulate and encourage us. It also discloses well founded claims to sympathy and assistance in our voluntary labors, the results of which, if judiciously employed, will be of decided benefit to the state.

In addition to the increased and rapidly increasing facilities of communication, the tendency of recent events has been to greatly extend the acquaintance of many members of the profession, and awaken a common interest among those engaged in kindred investigations, which cannot fail to excite to increased diligence in observing, and accuracy in recording the results of their observations.

While serious obstacles to our progress have been overcome there are others still existing which require earnest, continued efforts for their removal. Some of these pertain directly to the profession and the remedial influence must be exerted directly upon its members by creating a sentiment among them which shall be sufficiently powerful to bring all who aspire to an honorable position up to its standard of professional integrity. I am aware there are croakers and old fogies who will maintain such expectations are Utopian and never to be realized. I think any intelligent observer who has watched the progress and success of the efforts of the American Medical Association for the past twenty years will anticipate more favorable results; besides, these croakers are, usually, those who have seldom attended a meeting, unless it came to their doors, and are not active members of any medical organization. There is another class of difficulties which pertain more directly to the people and so far as they involve the rights of the uneducated, the afflicted and the helpless, they are proper subjects for legislative action.

At the meeting for 1868, in addition to the president's address, we find three papers recorded, one of which we have presented in full abstract in another communication. Dr. Edward Whinnery, of Fort Madison, reported a case of rupture of the uterus with abdominal section; recovery. This case was operated on March 29, 1865 by Dr. Whinnery, assisted by Dr. J. C. Blackburn, of Fort Madison.

A part of the two days of this session of the Society was devoted to organization, and the question of ethics. It appears that sectarian and irregular practitioners were an unending source of trouble, and any affiliation with one not practicing regular medicine, was a cause for discipline, and it required a great deal of watchfulness to keep men in the straight and narrow path of duty.

The State Society filed its first articles of incorporation in 1868, and were acknowledged before F. M. Hubbell, notary public, Polk county, Iowa. The incorporators were: Edward Whinnery, first congressional district; J. W. H. Baker, second congressional district; Wm. Watson, third congressional district; S. B. Thrall, fourth congressional district; A. G. Field and H. L. Whitman, fifth congressional district.

At the meeting of the Society held in Des Moines, February 5, 1868, a contract was made with Dr. J. C. Hughes to publish the proceedings in the Iowa Medical Journal in an acceptable manner for $1.50 per page, at which rate he has caused to be published seventy-two pages of the proceedings of the last meeting (1867), amounting to $108.00. It appears that the other expenses of the Society for the year (1867) were $61.75.

At the Des Moines meeting above referred to, Dr. Watson moved a vote of thanks to the Western Stage Company and to the various railroads for a reduction in the usual rate of fare.

As stated, the first session of the State Medical Society to be held in Des Moines was in 1868 under the presidency of Dr. Wm. Watson, of Dubuque, in the hall of the Good Templars, Wednesday, February 5, at 10 A. M. The address of welcome was delivered by Dr. H. L. Whitman, president of the Polk County Medical Society. Prayer was offered by Rev. H. S. De Forest.

Dr. Watson had been elected president at the Davenport session in 1867. Dr. Field had served as secretary 1867, '68, '69 and in 1871 was elected president. One vice-president seems to have been sufficient to assist the president until 1872 when the constitution was amended to provide for a second vice-president, and Dr. J. W. Smith, of Charles City was the first to fill that office.

In 1870 Dr. George P. Hanawalt was secretary, and by a singular oversight, nowhere in the proceedings can be found the year or month in which this session was held, but as the president's address was delivered February 23, 1870, it is pre-

sumed to have been about that time. It is to be remembered that Dr. Field's service as secretary, ended in 1869.

The Twentieth Annual Session of the Iowa State Medical Society met at 10 A. M., June 26, 1872, in the court house at Des Moines, President A. G. Field in the chair. Prayer was offered by Rev. Frisbie.

Introductory remarks made by the president urging more promptness in publishing report of proceedings of the Society, also referring to a display of empiricism at a recent meeting of so-called eclectic physicians in this city, were well received, and upon motion of Dr. Peck, referred to a special committee consisting of Drs. Thrall, Hughes and Hinsey.

At this time it is apparent that the affairs of the Society were at a rather low ebb, not because Dr. Field was the executive officer, but because he had not been elected earlier.

The report of Dr. S. B. Thrall from the Committee of Publication, is at least interesting.

Dr. Thrall says:

They had in accordance with the vote of the Society at the last meeting, compiled and arranged the manuscripts in the hands of the secretary, covering a period from 1867 to 1871 inclusive; had also issued a circular asking for contributions to aid in publication. Also reported the names of those contributing and amount contributed by each. Total amount $115.00. Received from ex-Secretary Hannawalt, $70.00; from Treasurer Gustine, $44.05, and had sold a sufficient number of volumes to make total receipts $337.55.

As there were but comparatively few physicians of the state members of the Society, and but few manifested such interest in it, the committee inferred that no more efficient means could be adopted to arouse the attention of the profession to the advantages accruing from a State Association than a liberal distribution of a volume proving the existence of a live organization; therefore contracted with Griggs, Watson & Day, of Davenport, to print 600 copies, 250 pages, for $475.00, to deduct $1.90 for each page less than 250; to charge the same amount for each page in excess; if necessary they to wait for a portion of the pay until this meeting of the Society.

In 1874 and '75, Professor C. E. Bessey, of the State College at Ames, with the writer, had many conferences as to the desirability of organizing an Academy of Sciences, which should be known as the Iowa Academy of Sciences. We agreed to invite a group of scientific gentlemen to meet at Iowa City for the purpose of organizing. Prof. Bessey entered into correspondence with scientific workers while the writer corresponded with the medical men of the state who were interested in scientific matters, and on August 27, 1875, at Iowa City, the following representatives of the medical profession, convened: Drs. E. F. Clapp, Iowa City; W. D. Middleton, Davenport; Asa Horr, Dubuque; C. C. Perry, Davenport; P. J. Farnsworth, Clinton; A. G. Field, Des Moines, and D. S. Fairchild, Ames. Among well known scientists present, were Dr. G. Hinrichs, Professor S. Calvin and Professor T. H. McBride, of Iowa City, and others who constituted the charter members of the Academy of Sciences, which is in active operation today.

The First International Medical Congress was held in Philadelphia in 1876. At that meeting, the American delegates were appointed by the State Medical Society on the basis of one for each congressional district. Dr. A. G. Field was delegate from the seventh district, and the writer served as delegate from the ninth district, which at that time included all the northwest section of Iowa, west of the Marshall county line.

It was at this time that the idea of organizing a medical college in Des Moines was under consideration. Dr. A. G. Field was the man who first suggested the organization of the Des Moines school, and advantage was taken of this opportunity to confer with influential members of the medical profession who were interested in medical school enterprises. At this time about the only condition necessary to organizing a medical school was to find prominent medical men who could agree to live harmoniously together long enough to get a medical school started. There was no difficulty in finding an abundance of material for professors of practice and professors of surgery, but it was extremely difficult to find medical men who were willing to be professors of physiology, pathology, etc. It required seven years of organization and reorganization before we could find a group of men that would agree to work for the college a part of the time at least. Our good friend Dr. Field deserted us soon after the school was organized, and left us to our own resources, but to him credit is due for working out the early steps of the project.

When the Iowa Academy of Sciences was formed, a microscope was a curiosity in a doctor's office. As a matter of fact, the State College of Ames had only had one microscope, and that was an old style Zentmyer, which could be used for the purpose of looking at things, but it was entirely impractical as a working instrument. The suggestion growing out of the organization of the Academy led Dr. Field to place himself among the first, if not the first physician, in this section of the country, to equip himself with a

microscope for practical work, and for many years contributed from time to time some valuable observations in the field of microscopy.

There were in the early days, two members in the State Society who were uncompromising in their antagonism to any irregular practice on the part of the regular profession, and those two men were Dr. S. B. Thrall, of Ottumwa, and Dr. A. G. Field, of Des Moines.

At the meeting of the State Society, January, 1876, Dr. J. W. Smith, of Charles City, read a paper on medical schools and their relation to the profession. This was referred to a committee, and Dr. S. B. Thrall as chairman of that committee, presented the following resolution:

That the Iowa State Medical Society say now to the people of Iowa and to their lawmakers, that they are not in favor of appropriating money to any medical school.

The resolution was adopted without discussion by a vote of yeas twenty-nine and nays twenty-five.

A HEMATOMA OF THE ABDOMINAL WALL SIMULATING AN INTRA-ABDOMINAL ACCIDENT*

WAYNE M. SHIRLEY, M.D., Carroll

It is conceded by surgical authorities that a strain of the parietal muscles of the abdomen can cause a rupture of those muscles, even in the healthy. The muscle most frequently affected is the rectus. However such an accident seldom occurs unless the muscle fibers have been previously altered by disease. The rupture of the muscle fibers may or may not be followed by the formation of a hematoma at the site of rupture.

Hematomata are known to occur in the abdominal wall as the sequence of amyloid degeneration following typhoid fever, miliary tuberculosis, variola or tetanus; also as the result of severe burns or freezing of the abdominal wall; also from the effect of severe blows from sharp or dull instruments. It must also be borne in mind that the underlying pathological condition may be a degeneration of the blood vessel wall itself, such as occurs from the effect of chronic alcohol or phosphorous poisoning or syphilis, or the cause may lie in an altered state of the blood itself, the so-called hemorrhagic diathesis.

Although the fact that a strain can cause a hematoma to form in a healthy abdominal wall, seems to be recognized, the symptoms resulting from such an occurrence do not seem to be given any place in medical literature. It does not seem to be recognized that such an accident can so closely simulate an intra-abdominal accident that the differential diagnosis is rendered very difficult. I have searched medical literature to the limit of my facilities and have been able to find no case report or general recognition of the fact that such a point in differential diagnosis might arise. The case I have to report today is brought to the attention of this session in order that the fact might be recognized better that one may occasionally be misled in his diagnosis of intra-abdominal accidents by the occurrence of an accident in the abdominal wall itself. Any paper based on the observation of a single case is supposed to be accompanied by an apology. Nevertheless this should not be so and a review of our past and present literature does not sanction any such expectation. A considerable part of our good literature is made up of single case reports. However any case to be able to stand alone must have some feature that makes it distinctive or puts it in a class by itself, either etiologically, pathologically or symptomatologically.

The nearest approach to any case reports of hematomata occurring in healthy abdominal muscles and due to strain are those found in "Der Zentralblatt fur Gynäkologie" as reported by Stöckel in 1901 and Vogt in 1913 These were cases of hematomata occurring in the recti muscles of pregnant women. Although the recti muscles of pregnant women are healthy muscles, they are physiologically stretched. Any strain applied to these stretched muscles would certainly bring them nearer to the breaking point than if the same strain had been applied to the recti muscles of the same women in the non-pregnant condition. The situation is similar to the familiar fact that an exertion that would cause decompensation in a heart already dilated, would be easily taken care of by a normal heart.

Stockel, in 1901, reported two of the above referred to cases and was unable to find any previously reported. His first case was a Para IV, who in the sixth month of pregnancy suffered from a severe pain in the right lower abdomen, which came on during a violent attack of coughing. Immediately she noticed a swelling in the abdominal wall just above the right groin. She had a slight rise in temperature. The pain continued and the swelling was opened, revealing a hematoma beneath the sheath of the rectus. Drainage resulted in a cure.

His second case was a Para VI, who eight days before confinement, during a severe attack of coughing, had a sharp pain in the upper right abdomen. She immediately noticed a swelling just below the right costal arch. She had the sensation as though something had torn in the belly

*Read before the Sixty-Fifth Annual Session, Iowa State Medical Society, May 10, 11, 12, 1916, Davenport.

wall. The swelling was as large as a child's head. It was opened and two handfuls of blood emptied out. The blood was coinfined between the two sheaths of the right rectus muscle. In this case, multiple petechial hemorrhages were found on both the upper and lower extremities and on the thorax. The question of the existence of a hemorrhagic diathesis was brought into question.

Vogt, in 1913, reported in the same journal the third case, a Para. II, twenty-one years old, who was under observation in the hospital three days previous to confinement. Her past history and present examination disclosed no unusual findings. Her labor was normal lasting five hours and twenty minutes. A few hours after labor she complained of severe pain just above the symphysis. Examination revealed a tumor at the lower end of each rectus muscle and extending up about one-half way to the navel. No fluctuation was present, nor was such the finding in any of the two preceding cases. The tumors increased in size for three days although the pain ceased. The patient was treated by conservative and reabsorptive means, and at the end of seven months no sign of the tumors could be discovered.

My own case differs from the above in that the patient was a man previously in apparent good health, and in that the symptoms were much more severe and complicated by intestinal disturbances. The past history of the patient included no infectious diseases, either acute or chronic, which would tend to cause degeneration of muscle fibers; no history of alcoholic indulgence or poisoning by phosphorous; no history of any tendency to hemorrhage, either internal or external. His age was thirty-seven and occupation railroad claim agent. I was called to see him on November 16, 1915, at 11:30 P. M. and found him to be suffering from severe pain in the right lower abdomen. He immediately volunteered the information that he had "a lump down there." His respiration was very rapid and panting in character. His face was anxious. Temperature was 100 and pulse 90. Examination of the painful area revealed an elongated tumor mass with ill-defined margins lying above the right groin, extending from the pubic spine up towards McBurney's point. Pressure over the mass was only moderately painful. Fluctuation was absent. Tympany was present over the tumor as well as over the entire abdomen. The abdominal muscles were held rigid, which interfered greatly with palpation of the tumor The patient complained a great deal of gas in his bowels and belched gas at frequent intervals. He was not nauseated, but felt as though his bowels should move. He said they had moved last at noon that day. He gave the following history of his present trouble. The day previous to this he had ridden in a buggy several miles and led a horse behind him by means of a halter strap thrown over his right shoulder. The horse was a fractious one and had repeatedly jerked him backwards. He remarked to a companion at the time that the horse would have him in the hospital with appendicitis if it did not quit jerking on him. He was finally obliged to stop leading the horse on account of the pain the jerking produced in his abdomen. The next morning he went duck hunting and was lying on his back with his gun clasped in his hands across his chest. He attempted to rise suddenly without any assistance from his arms, when he felt a sharp pain in his lower right abdomen. He became nauseated for a few minutes, but soon felt better and was able to continue hunting for the rest of the day, although bothered by some soreness in his abdomen. On his way home from the hunt, the pain became more severe, and by the time he reached his home city at 11:00 P. M. after a buggy ride and a railroad journey of two or three hours, he was suffering intense pain.

On seeing him, I ordered a hot water bag to his side. This gave him immediate and remarkable relief. A hot water enema enabled him to expel considerable gas, but no feces. The distention and tension of the abdomen and the feeling of fullness persisted in spite of all treatment. He now complained of considerable soreness over the tumor mass, which persisted in the same condition as before. He was placed in a hot water bath, but with no relief. He continued to belch gas freely and to pass it in large amounts from his bowels, although the distention seemed to be even greater. He now rested fairly easy for two hours when he began to complain again of severe pain in his lower right abdomen. The hot water bag failed to give the relief formerly experienced. The patient was then removed to the hospital. A presumptive diagnosis of volvulus or intussusception was made and confirmed by a surgical consultant. The tumor mass could not be definitely localized in the abdominal wall, and an exploratory operation was decided on. This was performed at 9 A. M. Incision was in the mid-line in order to be able to deal better with the intestines if this was found necessary. On cutting down, the peritoneum was noted to be markedly injected with blood. On incision of the peritoneum, it was immediately noted that the tumor was not in the abdomen, but in the abdominal wall, beneath the right rectus muscle. The peritoneum was closed and the tumor drained by a small incision directly over it. Several clots of blood were expelled from it. The convalescence of the patient was marked by two features. First, excessively anoying gas pains, associated with considerable distention of the abdomen, and not subsiding until the sixth day after the operation. Second, the occurrence of a rather copious hemorrhage on the third day from the upper part of the mid-line incision. More blood escaped from this wound in the next two days than from the original hematoma. Some significance might be attached to this as indicating a hemorrhagic diathesis of the patient, although no other evidence of such a condition could be found.

Discussion

Dr. J. L. Augustine, Ladora—A hematoma in the abdominal muscles could very readily be confused with some condition inside the abdomen very much more serious than this, and indeed in my own experience, that is exactly what has happened. I had a patient who late in the evening was struck in the abdomen, and only a short time before this a case that had been kicked in the abdomen by a horse, with ruptured intestine and a fatality because I had failed to open the abdomen perhaps early enough, and with that unfortunate experience in mind, and with clinical symptoms in the later case that were indicative of a ruptured intestine, I unhesitatingly opened the abdomen a few hours after the injury. Nothing pathological was found inside the abdomen, but there was a hematoma in the right rectus muscle. Now, I confess that, with an experience such as had occurred but a comparatively short time before, I was inclined not to wait for absolutely decisive symptoms. If my action seems hasty I do not feel ashamed of it, because I yet have the feeling that if a contusion of the abdomen occurs with rupture of the intestine, if one waits long enough to feel sure of his diagnosis, a fatality in all probability will result. In this instance there was the rigid abdomen, there was vomiting, there was pain, and a rapid pulse, the rigidity lasting a number of hours and up to the time the abdomen was opened, which I think was sufficient warrant for operation.

Dr. E. H. King, Muscatine—I want to congratulate Dr. Shirley on the construction of his paper and recommend that it be taken as a model for other papers that may appear before the Society. It was well read, he had something to say, he said it, and quit.

Dr. G. E. Crawford, Cedar Rapids—I gather from the report of the Doctor's case, that this hematoma was due to a traumatism of the rectus muscle. The jerking and pulling of a horse that the boy was leading, started the trouble, which finally was completed by his suddenly attempting to raise himself from his back like an athlete, and not succeeding in doing it. I believe that the injury was a partial rupture of the rectus muscle. I want to briefly relate a case which as far as my observation and experience go, was quite a rare one: A complete rupture of both recti muscles. A powerful man weighing some 225 pounds, in doing something about the house went up on a step ladder which collapsed under him and he fell, and in trying to save himself, both recti muscles were completely ruptured. He was at once rendered as helpless as though he had broken his spinal column instead of his supports on the opposite side. As I conceive it, a hematoma is due to simply a slight traumatism; while here there was complete severance of the recti muscles. We exposed the muscles and sewed them up, and the patient made a passably good recovery, but his injury was vastly more serious than many things inside the abdomen might be.

Dr. Shirley—I think that in every case of abdominal injury it is advisable to operate if there exist any doubt at all as to the diagnosis, and in this connection the severity of the force producing the injury, should always be taken into consideration.

FRACTURES OF THE OS CALCIS*

P. A. BENDIXEN, M.D., F.A.C.S., Davenport

In presenting this class of fractures, I believe that it is safe to make the statement that fractures of the os calcis are left unrecognized and receive less treatment than any other fracture.

Until a comparatively recent date, fracture of the os calcis was considered a rare condition, but the growing practice among surgeons of submitting all doubtful injuries to the x-ray, has shown that many conditions about the foot and ankle at first looked upon as sprains, were in reality, fractures. Leonard W. Ely estimates that fractures of this bone form 2 per cent. of all fractures and that in 75 per cent. of the cases reviewed by him, the first diagnosis was wrong. Von Bergmann quotes Ehret as claiming that 2 per cent. of all fractures are of the os calcis, and quotes Golebiewski as claiming that they form 4 per cent. of all accident cases.

During the past five years, I have had the occasion of seeing five fractures immediately after the accident and two that had been previously treated for sprains and flat-foot.

The calcaneum is the largest of the tarsal bones and projects downward and backward to form the heel. It articulates with the astragalus by three articular facets, and with the cuboid. The various parts are the body, the tuberosity or posterior process, the internal and external processes and the sustentaculum tali, which projects towards the astragalus and bears the middle facet for articulation with the same.

The mechanical forces concerned in these fractures vary with the pathological conditions produced. Architecturally, the calcaneum is constructed much like a cantilever bridge, the tuberosity and cuboid articulation being the points of support. The intervening space is spanned with filaments of bone so arched as to give the maximum carrying strength. The astragalus, which is a much denser bone than the calcaneum, articulates with the latter, by a convex, concave articulation. The part of the astragulus which articulates in the concave facet of the calcaneum, fits into it like a wedge with the apex pointing downward directly beneath and in line with the shaft of the tibia. As the great majority of fractures are produced by falling from a height,

*Read before the Iowa and Illinois District Medical Association, Rock Island, Illinois.

landing on the feet, there is a tendency for this harder wedge like portion of the astragalus to drive through the calcaneum at this point, especially if the foot be everted when landing. The resistance of the object on which the foot lands tends to drive the posterior fragment upward and backward. The degree of compression and of comminution is in direct ratio to the distance of the fall and the weight of the patient. The whole bone is compressed vertically and expanded laterally; there is often a pushing of fragments inward, under the ankle, and almost uniformly a considerable pushing outward of bone fragments, capped by the usually intact outer lamella of the os calcis out under the external malleolus. Compression fractures may be recognized radiographically only by changes in the density of the shadow, in the shape of the os calcis or its typical lamellar structure and the evidence of unusual angularity of the bone. In the more severe types of this fracture, distinct compression, comminution and displacement of the fragments may be readily recognized. The favorite site of this fracture is the anterior half of the bone; in some cases the fracture line involves the entire calcaneum. Irregularity of comminution of fragments is characteristic and vertical compression usual. The above is usually the type lesion.

There are however, other types described:

1. The avulsion fractures are due to sudden contraction of the gastrocnemius and soleus muscle with the foot in a flexed position. The line of fracture is not on the walking surface of the bone, the detached fragment consisting either of a considerable portion of the upper and posterior part of the posterior process or of a small cortical piece at the point of insertion of the tendon of Achilles. The displacement of the fragment may be very slight, which is usually the case when the fragment is large, or it may be extreme in those cases in which only a small cortical fragment is torn loose. The fracture line may rarely involve a portion, or the entire epiphysis of the posterior process.

2. Transverse fractures are due to direct violence. The line involves the walking surface of the bone and usually runs from a point about midway on the upper surface downward and backward so that a large posterior fragment is produced. This is rotated about a transverse axis, the upper end of the posterior fragment being somewhat displaced upwards while the lower anterior portion of the calcaneum is displaced somewhat downward. Marked displacement is limited by the attachment of the plantar fascia.

Fractures of the shelf on which the astragalus rests (sustentaculum tali) are rare and usually associated with fracture of other portions of the calcaneum. Isolated fractures of the sustentaculum are extremely rare. The fracture results from a fall upon the foot when it is in position of marked inversion. The resulting deformity is a pes valgus.

Any of the above forms may be compound. In recent cases there is usually considerable damage to the soft parts, resulting in hematoma and ecchymosis. In any of the types of fracture enumerated, there may be marked or very slight displacement of the fragments, or in some instances, fracture without displacement. In most cases, impaction to a greater or less extent exists.

In discussing signs and symptoms, it is necessary to consider them from the standpoint of recent and old injuries. In recent cases, the patient usually presents a swollen, discolored heel and ankle. Depending on the violence of the injury, there may or may not be broadening of the heel, flattening of the longitudinal arch of the foot, sinking of the malleoli, eversion of the heel, loss of concavity on each side of the tendon Achilles and crepitation on manipulation. Pain is the chief complaint and this is aggravated by attempt to stand on the foot or by manipulation. In old cases, the patient complains of pain in the instep, under the heel, or under the external malleolus. The foot usually shows a flattening of the longitudinal arch, broadening and eversion of the heel, loss of concavity on both sides of the tendon Achilles, sinking of the malleoli, especially the internal one which is usually prominent.

The diagnosis without a radiogram, is difficult, especially in recent cases. Ehret's statistics quoted by Von Bergmann, show that out of forty-seven cases, only three were correctly diagnosed. Other statics show practically no better results. Before the general use of the x-ray in injuries, there was justification for these errors, but today, mistaken diagnosis should be the exception. Without a radiogram, one can hardly be sure of the condition in any case. With the radiogram, all doubt is eliminated. The differential diagnosis lies between fracture of the os calcis and other injury about the ankle, and here again the radiogram is the court of last appeal. It not only makes the diagnosis as to the presence of fracture, but gives us the only reliable information on which to select proper treatment.

Prognosis—The general drift of conclusions to be drawn is, beyond doubt, that expressed in the paper of Cotton and Wilson; namely, that os calcis fracture of the usual compression type, is

one of the most serious lesions met with, so far as future function is concerned. In fractures unassociated with displacement of fragments, the prognosis is good as regards function. The same cannot be said of fractures in which there is comminution or displacement of fragments. In these cases, non-operative methods of treatment are apt to be attended by poor functional results and marked decrease in earning efficiency. This is due to loss of the arch of the foot, to the projection of fragments into the sole of the foot, making walking painful to loss of lateral motion of the foot and to pain due to relaxation of ligaments.

Treatment—In fracture unattended by displacement of fragments, treatment consists in immobilization in plaster of Paris, applied from the toes to below the knee for a period of three to four weeks. This is to be associated with, or followed by massage and passive motion; weight bearing should be allowed at the end of six to eight weeks. In many cases, however, there is displacement of fragments, and a general anesthetic is usually required for reduction of fragments. The treatment therefore must be adapted to the different conditions present. In tear fractures, suture with Kangaroo tendon followed by immobilization with relaxation of the muscles of the calf and the plantar fascia and muscles. A great majority of recent injuries present a fracture with displacement backward and upward of the posterior fragment attached to the Achilles tendon. In many instances, considerable impaction has taken place. This results in flattening of the longitudinal arch of the foot. The fragment is held in malposition by contraction of the calf muscles and the impaction. The ordinary practice of trying to manipulate this fragment into position is absolutely impossible, and more radical measures must be resorted to.

Cabot probably has made the best suggestion in these cases, and that is to introduce a urethral sound through puncture holes, just in front of the point of insertion of the tendon of Achilles and making downward traction while an assistant makes counter force on the anterior end of the bone, by pulling up under the instep with a piece of gas pipe placed transversely to the longitudinal arch. This generally gives an excellent reduction. The Achilles tendon is then severed to overcome the pull of the calf muscles and the heel and ball of the foot drawn towards the center elevating the arch. A plaster cast extending to the knee and elevated in the arch, is then applied, while the cast is hardening, pressure is made upward in the arch and the cast is indented laterally above the posterior fragment. The patient should not be allowed to bear weight on the foot for ten weeks, at which time he is then fitted with a proper arch support.

Von Bergmann in discussing treatment, says, "If the fragment cannot be held in place with a splint, it should be nailed in place through the skin, as recommended by Gussenbauer." Such treatment is objectionable for two reasons: First, the danger of necrosis and infection owing to the poor blood supply to the heel. Second, mechanically, great strain is put on the single line where bone contacts with the nail, and pressure necrosis with ultimate displacement of the fragment is likely to result. Albee recommends the bone-graft peg.

In greatly comminuted fractures with lateral broadening, Cotton recommends re-impaction with a mallet by hammering the fragments together from the lateral aspect. A method which I employed in my last case was by means of a clamp and two blocks of wood (as suggested by H. Gifford, Syracuse, N. Y.).

In compound and comminuted fractures, it is sometimes necessary to remove some of the fragments. In old cases which constitute the large majority of patients, the surgeon is consulted to obtain relief from disabling pain. The pain is usually under the external malleolus, in the instep, under the point of the heel, or in the sole of the foot. Frequently a proper fitting arch support will relieve the pain in the instep, which is due to flattening of the longitudinal arch. For pain in the sole of the foot, Cotton recommends a pad under the heel, thus lifting pressure from structures in the sole of the foot. Pain under the external malleolus is due to broadening of the os calcis from displaced fragments or callus. This can be relieved only by chiselling away the impinging portion of the os calcis. Pain under the heel is caused by callus or misplaced fragments of bone which should be removed. To restore the normal contour of the plantar surface and bring the posterior end of the os calcis down, Gleich has recommended an operation in which a wedge shaped piece of bone is removed from the under surface, thus bringing the posterior end downward and forward.

In conclusion, I want to state that the responsibility for the majority of bad results is largely chargeable to lack of thoroughness in examination of the foot and ankle injuries and, more than anything else, to neglect of the radiogram and to inadequate methods of treatment when the condition is recognized.

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AN INTERESTING CASE OF COMPLETE CIRCUMFLEX PARALYSIS

A. M. Evetz, M.D., Carroll

May 15, 1916, patient Master S. B. came to my office complaining of a severe earache. Before taking the history, I casually looked him over, and remarked "when and how did you get your right shoulder injured," as it looked like an upward dislocation. He replied, laughingly, that that was not the trouble for which he had come to see me, but for a severe earache as stated above.

The history of the case is as follows:

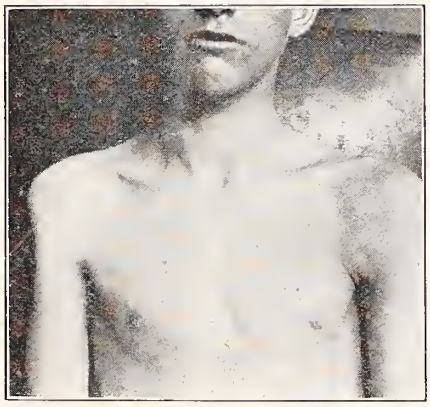


Figure 1—Note the prominent right coracoid process and head of right humerus due to the absent anterior and lateral deltoid muscle fibers.

Patient S. B., lives at Carroll, Iowa, fourteen years, ten months of age; school boy in the eighth grade; weight ninety-five pounds, gaining; height five feet three inches; temperature 98.4° F.; pulse seventy-four sitting; respiration eighteen.

Present trouble began about three days before. Discharging matter since 5 A. M. this morning, after which he felt very much relieved. Had a sore throat for seven days, which was especially painful on swallowing. Also complains of a continuous dull aching pain in the right lower portion of the abdomen.

Habits—Drinks one cup of coffee for breakfast, one cup of tea for supper, and six glasses of water a day. Eats regularly and chews his food well. Sleeps from 9 P. M. until 6 A. M. with windows open, but not in a draft. Bowels regular. Not using any drugs, medicine or patent medicine.



Figure 2—Showing a fine outline of the head of right humerus, due to the absent lateral and posterior deltoid muscle fibers. The teres minor muscle is also atrophied.

Previous Health—Child normal at birth, which was also normal. Was well until twenty months of age, when mother one night woke up and found him sleeping on right side, with right arm behind back. She immediately changed his position, but after that time the functions and movements of that arm were very much impaired; and, after two weeks, a change in the contour of the right shoulder was noticeable. It did not grow as fast as the left shoulder. Child was treated, so the mother stated, by a competent physician in the community but without results. Also had measles, chickenpox and whooping cough.

Personal History—Patient is the fourth child. Has two brothers and three sisters, living and well. Parents living and well.

Family History—Father's father died at the age of seventy-five years of apoplexy. Father's mother died at the age of forty-two years of carcinoma of the right breast. Mother's father died at the age of thirty-six years of pulmonary tuberculosis. Mother's mother, living and well, is sixty-nine years old. Has five uncles and four aunts, all living and well.

Physical Examination—Inspection—Face thin and pinched. Left ear discharging pus freely. Small perforation size of pin point, noticeable near postero inferior portion of mallcus. Membrana tympani markedly congested and flaccid. Right ear seemed normal. Palate high. Both tonsils, very large, highly inflamed, with pockets full of caseous material. Nasal septum slightly deflected to left. The pharyngeal vault full of adenoid growths. Right deltoid muscle absent, making outline of head of humerus and coracoid process plainly visible. Left deltoid muscle well developed, making outline of head of left humerus and coracoid process invisible.

Right teres minor muscle atrophied. Left half of chest larger and more developed than right half. Motion of right shoulder, which will be discussed later on, was markedly limited. Palpation confirmed inspection and also showed a rigid right lower abdomen, especially tender over McBurney's point and painful on pressure. Auscultation and percussion revealed a very large heart, as shown on the x-ray plates, and normal lungs.

Mensuration — Right half of chest, just below axilla, measured fourteen and one-fourth inches while the left half measured fourteen and three-quarters inches. Circumference of right arm at arm pit was six and one-half inches, the left nine inches. Circumference of relaxed right arm at insertion of deltoid muscle was seven inches; contracted, seven and one-half inches. The measurements of similar points on left arm were eight inches relaxed and eight and one-half inches contracted. Both humeri were exactly twelve inches long.

Nervous System — Negative, except paralysis spoken of above. Sensation normal.

Laboratory Findings—Amount of urine for twenty-four hours 1200 c.c. Reaction slightly acid. Sugar negative; albumin, negative; microscopic, negative; blood pressure, both arms, equal; systolic 100 m.m. diastolic 40 m.m.; pulse pressure, 60 m.m.; sputum and feces, negative; blood, 4,700,000 red; hemoglobin 85 per cent. Talquist; white blood corpuscles, 8000.

Treatment of Sore Throat—Consisted of one application of ten per cent. ag n 0 3 to tonsils, sodium salicylate grains, 10 t.i.d. and a gargle solution made of Seilers tablets. Advised bed rest, ice bag to right side, no laxatives and no food until patient's bowels had moved well, when he was a great deal better. Liquids, consisting of cold water or milk

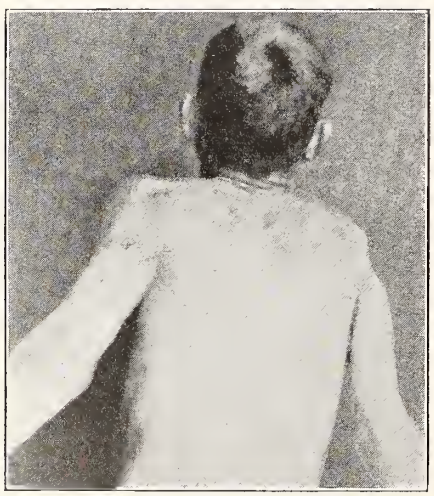


FIGURE 3—Showing the marked limitation of posterior extension of the right arm as compared with the left arm.

were given sparingly. Advised removal of tonsils and adenoids as soon as acute condition had subsided. Ears were cleansed out every two hours at home by his mother. After one week his sore throat and right side were well. After another week his left ear dried and healed leaving apparently no bad after effects.

What interested me most in this case, was the rare pathological condition of his right shoulder, due to a circumflex nerve paralysis. I took six pictures which I believe will explain the shoulder lesion better than I can describe them.



FIGURE 4—Skiagram of right shoulder area, showing the deficiency of skeletal growth. The well marked epiphyseal line is to be noted.

X-ray picture fourteen inches by seventeen inches of entire chest and both shoulders shows, as stated above, a very large heart. The head and upper third of the right humerus was considerably smaller than the head and upper third of the left humerus. The head of the right humerus had dropped slightly from its socket. Ossification was far more complete in the left humerus.

Nerve lesions due to injuries, are, according to literature, quite common, but a pure circumflex nerve paralysis, I believe, is rare. According to Church and Peterson, injury often takes place by shoulder dislocation, crutch pressure, and by falls or blows. Injury to this nerve causes loss of action of the deltoid, and all attempts fail at lateral extension of the arm from the body. The loss of the teres minor action is insignificant. Anesthesia in distribution of the circumflex nerve over the lower two-thirds of the deltoid, is usually present.

The circumflex nerve, according to Gray and Piersol, arises from the dorsal cord of the brachial plexus in common with the musculo spiral nerve, and its fibers may be traced through the dorsal cord of the fifth and sixth cervical nerves. It is at first placed behind the axillary artery, between it and the sub-scapularis muscle, and passes caudad and outward to the lower border of that muscle. It then winds dorsad in company

with the posterior circumflex artery through a quadrilateral space bounded above by the teres minor muscle, below by the teres major muscle, internally by the long head of the triceps muscle, and externally by the neck of the humerus. The nerve then gives all an articular filament and divides into two branches, an upper and a lower.

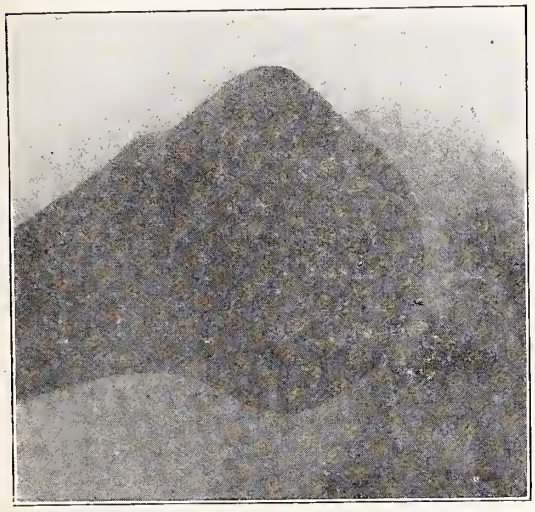


Figure 5—Skiagram of left shoulder area, showing the bony development of the humeral head. Note the absence of a well marked epiphyseal line.

The upper branch winds dorsally around the surgical neck of the humerus, supplies the deltoid muscle, and gives off cutaneous branches to the integument covering the deltoid muscle. The lower branch also supplies the deltoid muscle and its integument, besides the teres minor muscle.

At the time of injury the child was treated, as stated above, by one of our local prominent physicians without any results. He used electricity and massage, so the mother stated. The only treatment advisable in this case was surgery which is out of the question at the present time, as it is over thirteen years standing. The time limit in which operation ought to have been done is one and not to exceed two years, according to Ochsner and Percy. She was advised by the Mayo Clinic to bring the child to Rochester for examination. They stated that treatment in this case, which would have to be surgical, was out of the question.

The surgical treatment of nerves varies with different operators. Mumford states regeneration can be accomplished only through a complete anastomatic reunion of the distal portion with the sound central portion of the affected nerve. He uses silk and occasionally twenty-day chromic catgut. Ochsner and Percy, if unable to coapt the nerves, make a trellis or connecting link out of catgut, which, according to J. B. Murphy, had better be covered with living fascia, or Cargile membrane. Cushing, Frazier, Spiller and Val Kaathoven who have done brilliant work on nerve surgery, advise an anastomosis wherever possible.

When operating, handle the nerve carefully and not with instruments. Slight stretching is permissible as it may occasionally bring the divided ends into place. After operation, the united nerve ought to be kept in a relaxed condition by a fixed immobile dressing of which plaster of Paris is probably the best.

Prognosis—Providing the operation is done very soon after the injury, and the several parts are properly coapted, or the injured portion removed and then correctly brought together, is as a rule favorable. The sooner the operation is done after injury, the better the prognosis. After one year, and some authorities say two, treatment, by whatever method, will be of no avail.

The points of interest in this case of circumflex nerve paralysis are:

1. Complete atrophy of the deltoid and teres minor muscle.

2. The functions of the deltoid muscle are to raise the arm from the side so as to bring it at right angles to the trunk anteriorly, laterally and posteriorly.

3. Retention of sensation in the integument covering the deltoid muscle generally lost in circumflex nerve paralysis.

4. Markedly under-developed head and upper third of right humerus.

5. The late ossification of the head of the humerus which ought to be complete at the sixth or seventh year. (Gray.)

6. Relaxed condition of the ligaments of the shoulder joint, allowing a sub-luxation of the head of the humerus, probably due to a degeneration of the articular branch of the circumflex nerve.

THE CONTINUOUS SPONGE

C. A. Boice, M.D., Washington

The large increase in the number of malpractice suits during the past few years compels us to direct attention to the manner and methods of our work and learn if there are not ways and means of increasing the efficiency of our procedures by looking more carefully to the details, to prevent, if we may be able, much of the present day litigation.

There are several pertinent topics which we might consider with this end in view, a general acceptance of any one of which would materially reduce malpractice troubles: Keeping complete case histories and surgical records and letting the patient know that we keep them; more care in fractures with a more frequent use of the x-ray and more frequent consultations.

But we desire to call attention to a procedure which does not cause as much litigation as some others, but nevertheless an important one; not for this object alone but as a distinct advance in progressive surgery.

Of some seventy malpractice suits brought to the attention of the defense committee of the Iowa State Medical Society, three or four have been sponge cases. Dr. Moyer of the Illinois State Committee, writes me that they have defended four sponge cases out of a total of two hundred and forty-one cases tried. One of the defense companies writes me that sponge cases comprise one and one-half per cent. of their work, but the number brought to the attention of the defense committees is no criterion to the frequency with which foreign bodies are left in operative cases.

One surgeon tells me that within the year he has had occasion to remove sponges from three patients in whom a former operator had been in too big a hurry. In one, following a prostatectomy, the gauze was wadded so tight into the cavity left by the enucleated gland that the second operation was done with a tentative diagnosis of bladder stone. These cases will never come to the attention of any defense committee because the operator did not apprise the patient of the findings.

Another surgeon told me recently that he had frequent occasion to do secondary operations for the removal of gauze left by other surgeons but no lawsuit had ever resulted as he had kept his own counsel. Let no one get the idea that gauze is never left by any but the country surgeon; the expert surgeon has just as many mistakes to his credit.

Suffice it to say that the condition is not so rare as the returns from the medico-legal committees would indicate. The vast majority of operators show good judgment and do not give cause for the suit being started.

H. Hinterstoisser in Weiner klinische Wochenschrift, April 18, 1912 (abs. J. A. M. A. Vol. lvii, page 1650) reports from the literature, 121 cases of sponges left in the abdomen; 20 per cent. of the cases died later; in seventeen the sponge was discovered at autopsy, five patients died from the secondary operation, and two died following spontaneous expulsion. The length of time the sponge was in the body varied from a few days to twelve years. In six cases the sponge found its way into the bladder; in twenty-two into the intestine; in twenty-five it was eliminated through an abscess in the abdominal wall; in eighteen it was spontaneously evacuated from the rectum. He warns that the mishap is particularly liable to happen while operating for ruptured extrauterine pregnancy.

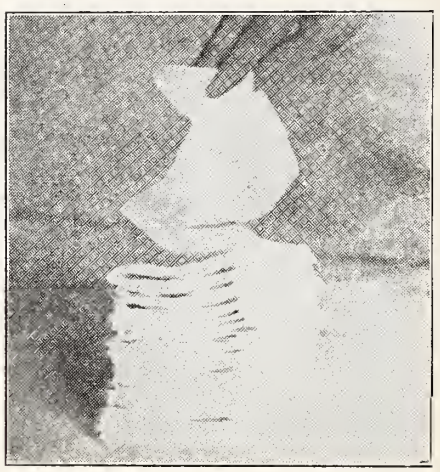


FIGURE 1—Folding the gauze strip, preparatory to placing it in a bag.

Of retained articles, about twenty-five per cent. have been instruments. Even a German surgeon lost his spectacles in the abdomen and they were removed at a subsequent operation by a French surgeon. Many cases have been reported where small hemostats and other instruments have been lost. The use of large instruments—at least six inches long—will overcome this possibility.

Where gauze may be removed by a second operator (whether bona-fide or fanciful), the first operator is in a difficult position. It is not in every case that the condition is clear, but loose sponges having been used and possibly not an accurate record kept, the first surgeon does not know exactly what was done and juries are notoriously prejudiced. Witness the famous case of Dr. Hageboech of Davenport, which went through three trials with a disagreeing jury eleven to one for plaintiff each time. The attorney for the defense told me that it was impossible to convince the jury that the gauze exhibited in court was not of the size, shape nor texture of that used at the operation by Dr. Hageboech.

The case of Dr. Mammen, of Bloomington, Illinois, was defended through three trials by the Illinois Society, to a final acquittal. The whole

case started from the fool remark of a nurse upon finding a piece of gauze in the slop jar after the patient's return home from the hospital.

Dr. Miles F. Porter, of Ft. Wayne, Indiana, reports the case of a woman, after an abdominal section, removing several pieces of gauze from the vagina, attempting to give the impression that the gauze was ulcerating through from the peritoneal cavity.

And retained gauze is not all found in the peritoneal cavity. Dr. H. L. Kretschmer (abs. S. G. and O. Vol. vii, p. 596) reports six cases where

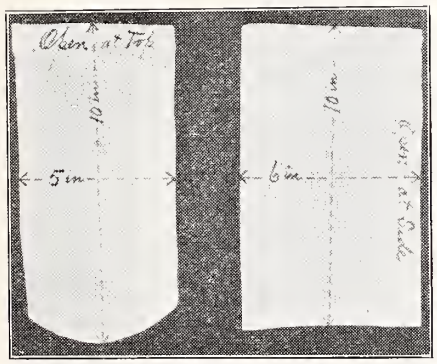


Figure 2—Showing the dimensions of heavy muslin bags used to receive the gauze strips.

gauze had been left in extraperitoneal operations, one an inguinal hernia in which the gauze was removed from the scrotum two and one-half years later. Even in a certain large hospital where great care is exercised, a strip of gauze five yards long was sewed up in the scrotum.

Instances might be multiplied indefinitely showing where trouble has arisen from well-founded or fanciful ideas that pieces of gauze have been retained, and the surgeon having used loose sponges or pads has had much explaining to do and is usually not let off with the explaining.

To overcome the liability of this trouble, many methods have been described: (1) Having two or more nurses count the sponges in and out. Even here the errors have been many. (2) Attaching a tape to each sponge—tapes are liable to break or be cut off. (3) Attaching forceps to each sponge—this is very bunglesome and the snaps are easily unlocked at the wrong time. (4) Attaching a ring to each sponge and threading all on one long tape. All of these are equally inefficient and cumbersome, each requiring the undivided attention of one or more assistants.

The use of the continuous sponge overcomes all these objections, it requires the undivided attention of no one, is not bunglesome, there are no parts nor pieces to become detached, it is inexpensive, convenient, and almost automatic. This method was first brought to general attention by Dr. H. S. Crossen of St. Louis in a paper read in Baltimore in 1908. In this paper he reported 240 cases collected from the literature where foreign articles had been left.

After having had considerable experience with this procedure in the old Washington City Hospital, it was introduced into the new Washington County Hospital at its organization in July, 1912. (This is, by the way, the first taxpayers' county hospital ever erected.) In all the time since, the continuous sponge has been used in every operation performed where any of the body cavities have been opened. The number of such cases now exceeds four hundred and fifty separate patients—indeed, in all such operative work, no loose or separate sponges are allowed in the operating room, in order that by no chance may a loose or unattached piece of gauze gain entrance to the operative field.

The technique of using the continuous sponge is easily acquired. It is absolutely unnecessary to think of a sponge count, the human equation for error is entirely eliminated; its use and removal from the operative field is automatic. Also in economy of gauze used, there is no additional

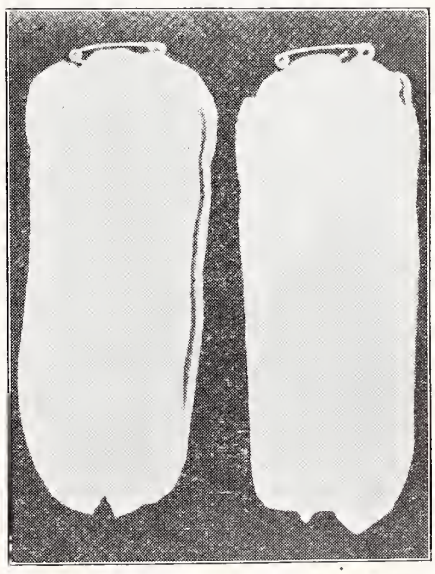


Figure 3—Bags filled with gauze and the opening fastened with a safety pin.

expense, as the sponges may be washed, in clean cases (in pus cases they are burned), and sterilized. The best quality of gauze may be used several times when cut up and used for dressings or the whole used as a roller bandage. It is no economy to use the cheaper grades of gauze.

Our very efficient superintendent, from the opening of the hospital, realized the importance

of simplified and safe procedures in the operating room, and has insisted on the use of the continuous sponges by all operators, thereby reducing to a negligible quantity the possibility of lost sponges. Is it needless to call attention to the fact that courts are now holding hospitals equally liable with physicians and surgeons for neglect or carelessness and that any procedure which reduces or does away with the legal hazard is self-commendatory? Where surgeons of greater or lesser experience work with student nurses in operating rooms, it is absolutely essential that all elements of error or risk be eliminated and the continuous sponge does it.

To make: For sponging—gauze strips ten yards long and one-half yard wide (Figure I) are used. The strip is laid on the table, edges folded in until the resulting strip is three inches wide, and six layers in thickness. To receive the strip, bags of heavy muslin are made, five by ten inches, open at the top (Figure II). The end of the gauze strip is carried to the bottom of the bag and securely sewed there with strong thread. The strip is then packed firmly into the bag in such a way that it can be pulled out easily. When full, the end of the bag is fastened shut with a large safety pin (Figure III). If the gauze is to be used outside the hospital where it is sterilized, bags large enough to hold two of these are made. The gauze bags being sterilized inside this outer covering, allows safe carriage and insures the inner bag being clean when wanted.

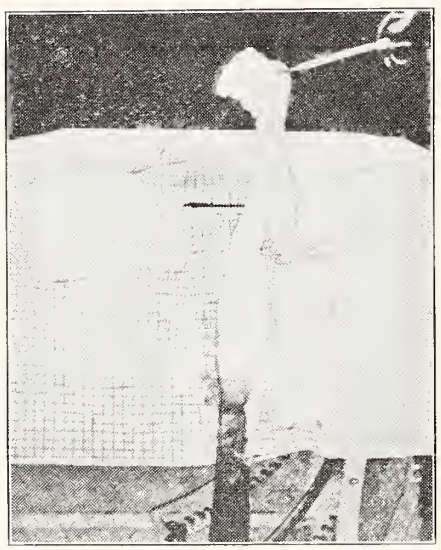


FIGURE 4—Method of using the continuous gauze sponge. The soiled portion may be allowed to drop at the side of the table, or may be placed in an open bag attached to the sterile covering near the operative field.

To make pads to use as lap sponges: Use gauze one yard wide and five yards long, folding the gauze into a strip four and one-half inches wide and packing this into bags of suitable size, six by ten inches, in the same manner as for the sponge strip. The bags should be marked on the outside with indelible ink just what they contain.

The large safety pins serve to anchor the bags to the towels about the operative field. As soon as the operator is ready to begin work, two bags are anchored to the toweling, one each for the operator and first assistant.

The gauze is withdrawn from the bag as needed, letting, the soiled end fall to the floor or putting it in a pocket arranged for it. *In no case cut off any of the soiled ends.* (Figure IV.) If hot normal salt pads are needed, dip the whole bag in the hot water, wring it out and it is ready for use.

With the end of the gauze sewed to the bottom of the bag and the bag fastened to the dressings about the wound, it is absolutely impossible to leave anything in the wound. Again, the margins of the wound are not encumbered with a lot of instruments attached to sponges.

This makes the removal of all the gauze practically automatic, there is no hurried counting of the sponges before closure; it depends on no complicated rules, nor the strict following of a regular routine, and is equally applicable to emergency work.

The surgeons, assistants and nurses knowing the character of all the gauze used about the field, and the written record showing what was done; if later the patient vomits gauze or passes some rags from the vagina or rectum, or if a string of gauze is found in a sinus, or even if an odd piece of gauze is found about the house, will suffer no uneasiness.

The method is simple, safe, satisfactory; it is inexpensive, about the same amount of material being used as for separate sponges and pads; it needs less assistants; it eliminates the human equation.

A sufficient number of surgeons throughout the country have now been using the continuous sponge for a sufficient length of time to prove conclusively that abdominal operations can be efficiently performed without the use of the dangerous loose sponge. This being so, it follows logically that as time goes on and the knowledge of this fact becomes public property, surgeons will find it increasingly difficult, in courts of law, to obtain extenuation for having left a sponge in the peritoneal cavity.

SOME REMARKS UPON PRESENT DAY SURGERY OF THE ABDOMEN*

D. W. Ward, A.B., M.D., Oelwein

The past ten years has been an exceedingly pregnant period in the development of abdominal surgery. Many operations have been performed that were unheard of before that period; many startling revelations have been brought about; the field has greatly broadened and many diseases formerly considered in the exclusive field of the internist, have been placed in the field of the abdominal surgeon. Following the investigations of Metchnikoff and the introduction of the ileosigmoidostomy and colectomy for chronic constipation by Lane, this procedure has been advocated and practiced for the relief of practically every ailment the human body is heir to. The results following splenectomy for various types of the very fatal anemias, bid fair to definitely establish such diseases as surgical instead of medical. The perfection in the use of the x-ray and technique of bismuth-radiograms have demonstrated much new, normal and pathological data within the abdomen and produced radical changes in the conception of the anatomy, physiology and pathology of the intestinal tract. The recognition and importance of colitis and peri-colitis and abnormal kinks and adventitious membranes as described by Jabez Jackson in 1909, and by many others since then, has played an important role in the re-arrangement of our conception of intra-abdominal pathology. Through the investigation of Rosenow, very close relationship has been shown to exist between many abdominal diseases and mouth and throat and accessory sinus diseases. Dr. C. H. Mayo has well said that the abdominal surgeon has long been dealing merely with end results of distant infections.

These interesting and radical discoveries have come so thick and fast that it seemed as if truly a new world had been discovered in the field of abdominal surgery and surgeons have been compelled to study and treat abdominal diseases as well as many other diseases from an entirely new viewpoint and new standards of etiology and treatment have had to be adopted.

It has therefore become imperative to co-ordinate these newer developments with what has long been considered standard knowledge and practice in abdominal surgery and it is the purpose of this paper to briefly consider the relation of what might well be termed the "new surgery" to that of the "old" and its influence on present day surgery of the abdomen and call especial attention to a few points that seem vital to good diagosis and rational treatment in the light of recent advancement in knowledge.

Early reports of wonderful results in dealing with hitherto obstinate and practically incurable diseases by more or less radical measures in eliminating the theoretically useless colon, in an attempt to secure better drainage of the alimentary tract, has led to much experimental work along this line. While these early results bid fair to establish such procedures upon a scientific basis, time has shown that the results are not so brilliant as at first supposed. Like so many new procedures that at first promise so much, time has robbed them of much of their glamour and brilliancy and shown that they are by no means the great cure-alls that over enthusiastic advocates at first claimed. Recent reports of results of series of colectomies show that such complications as dilatation of the small intestine which has to assume the vicarious function of the colon, and serious adhesions, and, in the case of ileo-sigmoidostomy, reversed peristalsis, are very frequent occurrences and produce symptoms more aggravating than the original condition for which the operation was performed, or even death. These results show that unfortunately such operations are not yet safe and proper procedures for many of the ills for which they are claimed specific, and are warrantable procedures in only the most desperate cases of bad elimination or practical obstruction. Of the drainage operations, partial colectomy with anastomosis of the ileum to the transverse colon as advised by Moynihan and Clark, is the operation of choice, in that fewer bad complications follow its use.

Abnormal positions of the large and small intestines and kinks and pericolic bands and adhesions, partly congenital and partly the result of intestinal stasis, must be recognized as definite pathological entities and must be reckoned with as possible causes of the complaints of every patient presenting himself with symptoms in the abdomen. The recognition of the importance of this marks a distinct advance in present day abdominal surgery. The favorite location of these bands and abnormal kinks and flexures are at the cecum and ascending colon, the hepatic and splenic flexures and at the sigmoid. The most common point being at the location of the cecum, explains the many failures of many of our operations for supposed chronic appendicitis. No surgeon has the right today to diagnose a case in which there is pain and tenderness in the lower

*Read at Austin Flint-Cedar Valley Medical Society, Iowa Falls, Iowa, July 12, 1916.

right abdomen as chronic appendicitis without considering the possibility of other pathology. Every surgeon of average experience knows that the results of many of his operations for so-called chronic appendicitis have not been satisfactory. He knows that his patient has only been temporarily improved and relieved of his pain and indigestion while receiving the usual post-operative treatment of rest, light diet and catharsis, securing better elimination, and remains so for a short time only. He knows that many of the same patients return later with the same indigestion, constipation and pain, (sometimes worse) than he had before the operation. We have quite glibly attributed this trouble to adhesions, and accepted it as an unavoidable consequence of the operation, and have felt that it was a small matter so long as we have rid the patient of the dangers of his threatening appendix. The truth of the matter really is that we have failed to treat surgically the real pathology in many such cases and thousands of appendices have been removed when either all the patient needed was securing better elimination by medical treatment alone or the relief of peri-colitis by surgical procedure other than removal of the appendix. The same criticism applies to a less extent to gall-bladder drainage. It is still a too common occurrence for surgeons to diagnose cases of chronic constipation, peri-colitis, etc., as chronic appendicitis and remove the appendix through a small incision in a "ten minute operation" priding themselves on the shortness of time and neat incision. This is beautiful operating but not good surgery, in keeping with advanced knowledge of intra-abdominal pathology. The diagnosis of these cases depends upon a careful, painstaking history, physical examination and the supplemental use of the x-ray. Here it must be remembered, however, that valuable as the x-ray has proved to be in diagnosis, its limitations and frequent deceptions must be borne in mind and its use should not supplant the tried and true methods of diagnosis such as percussion and palpation, but only supplement them, just as a sputum examination should only assist and confirm the findings of the physical examination in the diagnosis of diseases of the chest. Many of the claims of the rœntgenologists as to their ability to diagnose unaided many intra-abdominal conditions are exaggerated, as has many times been demonstrated at the operating table, and for this reason we should see to it that the older methods of percussion and palpation be not allowed to become a lost art. The very nature of the commonly used bismuth and barium meals are liable to produce abnormal conditions and it should also be remembered that many patients in perfect health are found to have a "pelvic transverse colon" and a stomach below the level of the umbilicus.

Having made a diagnosis of any intra-abdominal condition, it is extremely important to remember that our operating table diagnosis is apt to differ from the pre-operative one and it is an inexcusable error to blindly remove any organ simply because we had made a pre-operative diagnosis of trouble in that particular organ. With our present means of diagnosis, it is often impossible to diagnose the presence of abnormal kinks and adventitious bands before operation, and we should always perform any laparotomy with an "open mind" to a discovery that our diagnosis may have been incorrect or incomplete, and that more pathology may be present than was suspected. Having removed some pathological organ, we have absolutely no right to assume that we have coped with *all* the pathology present. This leads up to the most important point I wish to emphasize and to what I consider the most important procedure for complete and successful abdominal surgery, viz.: *a large incision in every case of laparotomy.* If any patient is sick enough to require a laparotomy, he should *always* be given the benefit of having done *all* that is necessary to relieve his symptoms and the only assurance that we have that this will be done in any case, is to make an ample incision that will enable the operator to inspect the course of the intestines, both large and small, to search for possible adventitious bands, membranes and adhesions, and give proper surgical relief from them. In the great majority of instances when such are present, bands can be severed, kinks released and membranes severed from damaging connections to the intestines. These conditions will be found in a surprising number of cases if they are only looked for. I have found such pathology at the splenic flexure; in the gall-bladder region; and had one case of total obstruction from a coil of small intestine becoming caught underneath a firm band in the region of the appendix. This case had been diagnosed as appendicitis and the appendix was found to be apparently normal.

With large incisions and more careful search for such pathology in every case, and proper operative treatment, with appropriate post-operative treatment, better results from our laparotomies will be obtained, fewer patients will return to "haunt" us, and the more radical operations for improved drainage of the alimentary tract will seldom be found to be necessary.

Before closing a paper on abdominal surgery,

it seems in place to call attention to the fact that in the light of the close relationship established between abdominal infections and distant foci of infection, our treatment of such conditions as appendicitis, gall-bladder infections, and ulcer of the stomach, is not complete until we have removed the *cause* of the disease, and this demands a careful search for diseased tonsils, carious teeth, alveolar abscesses, accessory sinus infections and every other possible focus of infection and their complete eradication.

Never before has there been a closer relationship between the surgeon and the internist in their fields of endeavor, and a successful practice of the one requires a careful consideration of and co-operation with the other. Successful abdominal surgery depends more exclusively today than ever before upon extreme care in diagnosis, scrupulous attention to detail, and careful, painstaking work at the operating table, with, above all, an ample incision for inspection and proper operative diagnosis and treatment. While giving wholesome respect and adequate consideration to new methods of diagnosis and new procedures, we must take time enough for observation of final results before accepting as standard, any radical change in accepted practice. However, we may confidently expect that still newer fields will be opened up and imperfections in newer operations overcome, and that the field of usefulness of abdominal surgery will be still more widely expanded, with a resulting increase in relief of suffering and lengthening the span of human life.

PRELIMINARY REPORT OF FOUR CASES OF STATUS EPILEPTICUS TREATED WITH SUCCESS

Wm. Held, M.D., Chicago, Illinois

The physician to whose lot it ever fell to be called to a case of status epilepticus, will know to appreciate the feeling with which such cases are approached. The majority of genuine status cases terminate fatally. The patient is seized with an attack, which at first promises to be of the many which the particular patient has been subject to in his experience as an epileptic. The family attends to the patient in the routine manner, protects him from injury which may be sustained by falling or hitting against objects during the convulsion and prevents biting of tongue by inserting a piece of rubber or other suitable object between the teeth, if possible. Instead of the patient regaining consciousness shortly after cessation of the attack, he remains unconscious, and after a brief interval, relapses into another convulsive seizure without having regained consciousness. This is a foreboding to be viewed with apprehension. Where the alarm is justified, one seizure follows another, and after variable periods of time, death ends the complete exhaustion and deep intoxication of the brain centers.

Where so little is to be lost and so much to be gained, any measures which hold out any, ever so slight, hope, may be justly employed. During a rather large experience with epileptics, I have had several opportunities to be in attendance in status cases and have formulated a statement which aimed to prepare the family of the seriousness of the situation. I used to say, that while we must and will do all in our power to relieve the patient, yet I have never seen a case of status which did recover. Within the last year I have experienced a change in attitude as explained in the following. I decided that if a certain form of treatment was beneficial in a few attacks, it ought to, or might be good in a series of continuous attacks. Reasoning thus, I proceeded in the next cases (six until now) in the following manner: Hot applications to patient's feet, cold to head. Patient's body was covered and the windows opened to supply fresh air. As far as possible, phlegm was removed from mouth in order to prevent inhaling of such during forcible breathing. While I prepared my instruments, I had a high rectal enema of warm water given, warm in order to also aid in voiding bladder contents. With the assistance of one person, who held the patient's arm, I obtained from ten to twenty cc. of blood. In cases of great congestion of head, I preferred the larger quantity. The blood was at once centrifuged after having been chilled under a stream of running cold water or ice when obtainable. The serum was drawn off and prepared in the following manner. To 2 cc. of the serum were added a 2 cc. of sterile distilled water physiological salt solution. This was shaken a few times and one-half the quantity poured out, thrown away. To the remaining two cc. of solution, again 2 cc. of the salt solution was added, shaken and half of it discarded. This process was repeated until fifteen times two cc. of the salt solution had been added. To the four cc. of solution finally obtained, I added two drops of dissimilar anti-epileptic ferment from any epileptic under treatment. Of this solution, that is, the patient's blood serum, the physiological salt solution and the anti-epileptic ferment, I injected

five drops intravenously. The results were as follows:

Six cases have been treated. In one case the anti-epileptic serum, respectively ferment was not added. This and one other case died without any noticeable change in their condition following the injection or treatment. Four cases survived the status condition after the treatment and experienced later epileptic seizures just as before the event of status. In the case of two patients, the regular appearance of their attacks was delayed by five and five weeks and four days respectively, following their recovery from status. Following the injection, the patients did not have any convulsive seizure after the state of quiet immediately following the injection. My reason for using the anti-epileptic ferment addition is based upon the observation that epileptics who received such injections experienced reactive attacks, thereby demonstrating the presence of homogenous elements in the serum and the system, hence the treatment of similibus. Further cases will be observed when opportunity offers, and reported. Inasmuch as the injections are intravenous, the procedure should be under aseptic conditions and preferably conducted by one acquainted with specific serum therapy. In the absence of the serum feature, the treatment might be given without these elements. This I have, however, not done thus far.

FACTS, FADS AND FANCIES RELATIVE TO MEDICAL PRACTICE*

PERCY R. WOOD, M.D., Cedar Falls

The gaudier the bird, the more sombre some of its plumage. The association of extremes seems a trick of nature. Thus not infrequently the greater the intellectual in man, the more dwarfed the spiritual, though both qualifications are necessary attributes of a typical physician. But nature often errs. If not, the peaceful uvela and the militant appendix would have been reversely located in the interest of longevity. Though if faithful to feminine instincts, each should be satisfied, for the former, like gossip, is in every body's mouth, and the latter, from its position in the canal, likewise sees all that goes on.

The practice of medicine and that of Christian living should go hand in hand, but genius and virtue hardly seem natural affinities. The former, a sort of hyphenated attribute, is frequently found consorting with others much less pretentious than unassuming virtue, while the latter too frequently dwells in unostentatious simplicity in the midst of an intellectual Sahara.

As lofty peaks tower above the lowly foot hills which support them, so do polished mentalities and cultivated talents often rise majestically, but scornfully, beyond the foundation principles of true character, and there alone in the chilled and dizzy atmosphere of aetheism and spiritual fog fail to be a light to the world or a benefit to men, all for want of warmth of soul and magnitude of spirit, for it is obvious that the permanency of every successful career rests upon a virtuous foundation. In nature, the dominating characteristic decides the type, whether animate or inanimate.

Thus the mighty stream so majestic in its calm and intrepid flow, though broken here and there by shallow fjords and impassible gorges and the purity of its limpid depths infected by the inflow of surface waters and city sewerages, is nevertheless taken as a whole one of nature's noblest monuments.

So with the individual. The most sublime character is best viewed macroscopically, since the detailed minutia brought out by the hypercritical microscope of intimacy, tends to dissipate high regards and lasting attachments and yet the nobility and grandeur of his character and the solidarity of his attainments challenges the admiration of the world and affords him an enduring place in history.

> But society weighs us to a nicety!
> The public turns its searching eyes
> Upon us just to see
> If we really are just what we are
> Or simply seem to be.

The test of character is contact. Fruits discover their soft parts when thrown together, each dent betraying a disintegrated core. So men under sudden impulse unwittingly, and often unknowingly, by the slightest act betray their mental and moral defections and thus shed light into many a dark and cranny nook of their being.

Oh constancy though art a jewel not only but even a rarity: The keystone lacking in many an otherwise well founded character. Indeed were we more faithful to our ideals we could be a greater force for good in the uplift of men. No other profession so administers to the health, happiness and longevity of the race and no other wields a greater influence for good than ours, but inherited and acquired proclivities and

*Read before the Blackhawk County Medical Society at Waterloo, Iowa, January 18, 1916.

idiocyncracies too frequently embarrass our good intentions and abort the fruitfulness of our best efforts. A profession so scientifically and honorably founded and so responsibly motived should rise above fads and empyrics. Today the appendix and the tonsil attract almost modish attention while tomorrow perhaps, only the poorly informed will generally favor these precedures. How many now pack in ice for typhoid or bleed for common ailments? Are all operations of today unequivocally necessary? Is the spectacular display, the psychologic affect and the renumerative response sufficiently therapeutic and laudable reasons?

Every measure, operative or therapeutic, should be scientific, masterful and professional, with interest invested solely in the subject.

The spirit of medicine is to heal and is purely philanthropic. Medical ethics are intended to foster this refined, noble and unselfish sentiment and should not be smothered by an icicled commercialism which would compromise our efficiency and be a leper upon our ethics and a strain upon our honor.

As a moral force we require greater cohesion of spirit and purpose. No chain is stronger than its weakest link nor a character than its slightest virtue. Nor is an organization more efficient than its lesser members. Each bears the burdens and shares the emoluments of all.

The self-sacrificing physician expending his energy for the relief of pain and suffering, is a figure worthy the plaudits of posterity, and yet if his dealings with clientelle and associates fails to plumb with his more conspicuous activities, the public finally snifs the air and becomes conscious of an unpleasant sensation in its olfactory bulbs. The typical physician suffers from cardiac enlargement. This renders him much sought after by those lacking in this respect and consequently he pours out his life and substance upon the alter of human need and suffering without question and often without price. Nevertheless this anomaly is not void of advantages. His sanctified will affords him permanency of purpose and enables him to calmy stand at the brink of the Styx and struggle on in behalf of a friend against the inexorable reaper. However, if successful, the befriended now safe, too often deplores the seemingly useless expense, and if disaster follows, the relatives sometimes bemoan an irreparable error in choice of physicians, so in one instance this philanthropic follower of Hippocrates is considered a nuisance and in the other a pestilence.

We are much to blame. Were we sufficiently weighted with the sanctity of our calling, the gravity of our responsibilities and the awfulness of the possibilities; our sympathies and charity for each would be greater and our oneness of spirit would raise our status outside our fold. But as a profession we are slightly tainted with a peculiar diathesis. Its manifold manifestations and ancient origin renders its etiology and therapeusis difficult to apprehend. It is regrettable that so philanthropically constituted a profession should suffer from so perfidious and iniquitous a distemper. Its syndrome resembles an ethical myelitis complicated with cardiac malfunction, associated with lesions located somewhere in the mystic depths of the grey matter. It simulates a tabetic process of certain mental and moral faculties when exercised toward his brother physician. The individual becomes seized with a sort of confrerephobia expressed by the conviction that his fellow laborer falls short of required professional and social standards and therefore unworthy of recognition. This feeling becomes so keen that even his name slips his memory. This is said to be the most malignant form of the affliction. The facts are that upon the over sensitized plates of his mental camera, his own distorted image has been mistaken for that of his honorable contemporary, and this has called forth the very same eruptions and disagreeable symptoms so marked by him in his fellow. Those highly specialized cells lodged somewhere in the subterranian interstices of his cerebrum and from which are supposed to emanate those finely differentiated and equilibrious senses of honor, magnanimity and generosity, have become abnormalized and their functions fundamentally disturbed. Gazing so continuously and intensely at his imaginary foe has induced moral vertigo and arrest of mental accommodation with cerebral nystagmus and intellectual squint and so disturbed his sense of orientation as to upset, seemingly, relationships between himself and his professional associates. Such profound nervous disturbances have moreover favored bilous deposits of jealousy and distrust. These surging to and fro in their narrow confines, have so galled him, that shrinking back in his six by four boney incasement and raising his hands heavenward, he shrieks in anguish and despair, oh God can anything good come out of Nazareth? little imagining that the disease is endogenous and endemic and that he too has fallen under its soporific and blighting influence.

Man can no more thrive outside the warmth and healthful influence of human fellowship and sympathy than can flowers without sunshine spread their perfumes, or fruits come to fruition.

Devotion to self is as deadly in its insidious

throttling of virtue and its productivity of vice as is a life of self sacrifice and helpfulness the potentializing force which beautifies and fruitifies. He who questions this, comprehends but indifferently the vitalizing elements of modern society. Moral and intellectual turpitude awaits the worshiper of the material. Character is fate, say the Greeks, and we carry our destinies within ourselves. Virtue being its own reward, requires but honest effort and efficiency. Constantly exercised, this develops and individualizes character and assures success in its greatest meaning. Let us strive for clearer concepts of duty, installing within our mental and spiritual counting rooms, first-class adding and forgetting machines. Add daily the finer qualities of those about us and this will help to make them ours. Forgetting the faults and failings of others, and thereby lose our own. Meet the squinting soul with orthophoric vision. Pour the balm of Gilliad upon the adder's sting and much that tends to reduce medicine from a noble science to an ignoble commerce disappears. By appropriating the good and eschewing the objectionable, we help to raise professional and social standards and thus advance more and more toward that higher and more efficient proficiency which serves to eulogize and immortalize the dignity and sacredness of the practice of medicine and finally terminates in a truer success and a more enduring compensation.

We require a serum. Shall we apply to Koch, Ehrlich or Carl Spengler? No, let us centrifulize it from the hidden depths of our own hearts and triturate it out of the common experiences of every day life. Greater hearts, from which emanate a genuine kindly feeling for all mankind is the urgent necessity.

> "So many faiths, so many creeds,
> So many ways that wind and wind.
> While the simple act of being kind,
> Is all the sad world needs."

In the deductions and calculations of life's activities, all must have a claim upon our concern, our good will and our assistance and above all those whose burdens, cares and responsibilities are the same as ours.

Let us train our instincts and sympathies to reach out beyond narrow horizons into broader, more helpful and more fruitful fields of endeavor. (Virtue like vice grows with practice.) This necessitates clearer concepts of the responsibilities and possibilities associated with the art of living and the science of medical practice. It is necessary that we have a conscience which serves as a guide rather than a simple appendage. "Root hog or die" may be conventional for the ignoble quadruped which furnishes our bacon, but it is not for us to wallow in the mire of obnoxious self-conceit and all absorbing greed. This ferocious disposition to acquire at all hazards, calls to mind the bovine that fearing the fodder would fail before morning, ate so rapidly it choked to death. Better be like the optimist who fell ten stories and at every window bar shouted all right so far. His end was at least honorable and peaceful and his example worthy of emulation.

Why confuse the means with the end? Not primarily to accumulate but to ornament society and bequeath to posterity a worthy heritage should we practice medicine. This, however, is possible only along high planes of intellectual and spiritual attainments. Concern for the common weal and the consciousness of an honest purpose with ability to perform, affords equipoise, sustains confidence and assures success. The spirit of medicine is purely philanthropic and the antithesis of an icicled mercinarism and a soulless commercialism. This latter creates suspicion, lessens usefulness and trails the sacred robes of our illustrious profession before the contempt and derision of the multitude.

This is the age of the heart, nor brawn nor brains alone wins. Each must be his brother's keeper; each the embodiment of pure and lofty incentives and each the leaven that leaveth the whole loaf shall we come eventually into the fullness of our own in the practice of medicine and in the respect and honor of this and coming ages.

EXHIBITION CLINICAL EYE CASE

Gordon F. Harkness, M.D., Davenport

Members of the Section: In presenting a clinical case such as this I do so more from a desire for an expression of your opinions as to what is to be done and when you would attempt operative measures for the cosmetic effect since the infection is a thing of the past. I also feel the responsibility more since the patient happens to be one of my closest personal friends and also a fellow practitioner. Briefly, the infection, streptococcic in type, appeared twenty-four hours after a small contusion and cut in the left temple assumed an erysipelatous appearance, the patient was delirious and for a few days his life was in grave danger, then our fears were concerned over the preservation of sight. The infection undermined the skin, attacked the left eyelid with an entire denudation of epithelium, undermined the dorsum of the nose and attacked the right upper eyelid and denuded that of epithelium. I know that from his present appearance I can not adequately portray to you the savage appearance at that time. Large quantities of necrotic subcutaneous tissue were

drawn through the drainage openings surrounding the left eye and there were many such openings. The upper tarsal plates were involved and it seemed as if there would not be enough left to retain any lid form. Irrigation, continuous moist applications and later the very careful application of scarlet red on small linen discs about the size of a pin head scattered over the denuded surface, was the treatment followed. There was an albuminuria present and the patient was thoroughly alkalinized. We feel very happy in the result that we have obtained but cosmetically we want to do more. The only scar formation is at the inner canthus. We expect to dissect out the fibrous scar tissue and with flaps, get further improvement. Will four months waiting be sufficient or shall we wait longer? When do you expect the end of the changes that are taking place now in the way of contraction of subcutaneous scar tissue? I am not predicting but am going to wait until thoroughly satisfied that no more changes are taking place.

The opinion of most of the men present seemed to be that one should wait at least six months to a year. A few advocated immediate repair.

[Note—Would say that nature has accomplished a very gratifying result. With the aid of massage to the tense scar tissue band, this case has resulted in practically complete recovery not only functionally but cosmetically.]

INFORMATION REGARDING THE CORRELATED ACTIVITIES

of the

COUNCIL OF NATIONAL DEFENSE AND THE ADVISORY COMMISSION

THE MEDICAL DEPARTMENTS OF GOVERNMENT

and the

COMMITTEE OF AMERICAN PHYSICIANS FOR MEDICAL PREPAREDNESS

(For Release After April 1, 1917)

MEDICAL PREPAREDNESS

Under existing conditions it is desirable that every physician as well as every other loyal citizen of America should be prepared to render active service to the Federal Government, remembering that the protection afforded by the Government has made it possible for its citizens to enjoy liberty, peace and prosperity.

The avenues through which the most effective service can be rendered by members of the medical profession have taken definite and concrete form. Briefly, the plan is that all medical activities should co-operate with the Council of National Defense.

It would seem desirable at this time to state explicitly just what the Council of National Defense and its various agencies are.

The Council of National Defense was created by Act of Congress, August 29, 1916:

Section 2. That a Council of National Defense is hereby established, for the co-ordination of industries and resources for the national security and welfare, to consist of the Secretary of War, the Secretary of the Navy, the Secretary of the Interior, the Secretary of Agriculture, the Secretary of Commerce and the Secretary of Labor.

That the Council of National Defense shall nominate to the President and the President shall appoint an advisory commission, consisting of not more than seven persons, each of whom shall have special knowledge of some industry, public utility, or the development of some natural resource, or be otherwise specially qualified, in the opinion of the council, for the performance of the duties hereinafter provided. * * * * *

That the Council of National Defense shall adopt rules and regulations for the conduct of its work, which rules and regulations shall be subject to the approval of the President, and shall provide for the work of the advisory commission to the end that the special knowledge of such commission may be developed by suitable investigation, research, and inquiry and made available in conference and report for the use of the council; and the council may organize subordinate bodies for its assistance in special investigations, either by the employment of experts or by the creation of committees of specially qualified persons to serve without compensation, but to direct the investigations of experts so employed.

A committee of distinguished physicians was asked to present to the President names of medical men suitable for membership on the advisory commission. Dr. Franklin H. Martin of Chicago was selected.

The following statement was issued by President Wilson on the night of October 11, 1916, in announcing his appointment of the civilian advisory members of the Council of National Defense:

The Council of National Defense has been created because the Congress has realized that the country is best prepared for war when thoroughly prepared for peace. From an economic point of view there is now very little difference between the machinery required for commercial efficiency and that required for military purposes.

In both cases the whole industrial mechanism must be organized in the most effective way. Upon this conception of the national welfare the council is organized in the words of the act for "the creation of relations which will render possible in time of need the immediate concentration and utilization of the resources of the nation."

The organization of the council likewise opens up a new and direct channel of communication and co-operation between business and scientific men and all departments of the government, and it is hoped that it will in addition become a rallying point for civic bodies working for the national defense. The council's chief functions are:

1. "The co-ordination of all forms of transportation and the development of means of transportation to meet the military, industrial and commercial needs of the nation.

2. "The extension of the industrial mobilization work of the Committee on Industrial Preparedness of the Naval Consulting Board and complete information as to our present manufacturing and producing facilities adaptable to many sided uses of modern warfare will be procured, analyzed and made use of."

One of the objects of the council will be to inform American manufacturers as to the part which they can and must play in national emergency. It is empowered to establish at once and maintain through subordinate bodies of specially qualified persons an auxiliary organization composed of men of the best creative and administrative capacity, capable of mobilizing to the utmost the resources of the country.

The personnel of the council's advisory members, appointed without regard to party, marks the entrance of the non-partisan engineer and professional man into American governmental affairs on a wider scale than ever before. It is responsive to the increased demand for and need of business organization in public matters and for the presence there of the best specialists in their respective fields. In the present instance the time of some of the members of the Advisory Board could not be purchased. They serve the government without remuneration, efficiency being their sole object and Americanism their only motive.

As indicated above the Council of National Defense therefore consists of six members of the Cabinet as follows:

The Secretary of War, chairman, the Secretary of the Navy, the Secretary of the Interior, the Secretary of Agriculture, the Secretary of Commerce, the Secretary of Labor.

The Advisory Commission of the Council of National Defense consists of seven civilians appointed by the President. The members of the Advisory Commission are as follows:

Mr. Daniel Willard, president of the Baltimore and Ohio Railroad, chairman; Mr. Hollis Godfrey, LL.D, president of Drexel Institute, Philadelphia, Pa.; Mr. Howard E. Coffin, of Detroit, (who is also chairman of the Committee on Industrial Preparedness of the Naval Consulting Board); Dr. Franklin H. Martin, of Chicago; Mr. Bernard Baruch, Financier, of New York; Mr. Julius Rosenwald, vice-president of Sears, Roebuck & Company, of Chicago; Mr. Samuel Gompers, president of the Federation of Labor.

The two bodies meet in joint session at frequent intervals for the purpose of considering problems relating to national defense.

The executive activities of the Council of National Defense are co-ordinated and carried out through the medium of the Director of the Council of National Defense, Mr. W. S. Gifford, and the chiefs of the various departments represented by the members of the Advisory Commission. Dr. Frank F. Simpson is chief of the Medical Section of the Council of National Defense.

The Advisory Commission

The organization of the Council and of the Advisory Commission provides that each member of the Advisory Commission shall gather about himself for the most effective co-ordination of the activities he represents, a committee or board consisting of representatives of governmental departments on the one hand, and civilian members on the other hand.

The Medical Committee, of which Dr. Franklin H. Martin is chairman, consists of

Wm. C. Gorgas, Surgeon General of the U. S. Army; Wm. C. Braisted, Surgeon General of the U. S. Navy; Rupert Blue, Surgeon General of the U. S. Public Health Service; Col. Jefferson R. Kean, Director General of Military Relief of the American Red Cross; Dr. Wm. H. Welch, member of the National Council of Research; Dr. Wm. J. Mayo, chairman of the Committee of American Physicians for Medical Preparedness; Dr. Frank F. Simpson, Chief of the Medical Section of the Council of National Defense, and Secretary of the Committee of American Physicians for Medical Preparedness.

Many medical problems which have bearing upon the national defense are considered by Dr. Martin's Committee and by the Advisory Commission and the Council of National Defense before being put into action by the governmental departments concerned.

Committee of American Physicians for Medical Preparedness—Its Component Parts

NATIONAL AND STATE COMMITTEES

In April, 1916, the national committee was appointed by the joint action of the presidents of the American Medical Association, the American Surgical Association, the Congress of American Physicians and Surgeons, the Clinical Congress of Surgeons of North America, and the American College of Surgeons. To that committee was delegated the responsible duty of formulating plans whereby the civilian medical resources of the United States might be ascertained and effectively co-ordinated for such purposes as might be required by the Federal Government.

The national committee organized, selected a chairman and secretary and an executive committee, and appointed a state committee of nine strong men in each state of the Union.

It is the fixed policy of this committee that all presidents and secretaries of the various state

medical societies shall be members of their respective state committees during their incumbency in office. From the first it was contemplated that at the proper time the organization of committees would be perfected in each county of the country. That time has now come and county committees are being rapidly organized.

In each instance the state committees are expected to select the county committees and to supervise their formation.

Name and Personnel of County Committees

It is the fixed policy of the Committee of American Physicians for Medical Preparedness that the various important medical interests and activities of each county shall be represented on the county committees. This is done for the purpose of co-ordinating the important interests and activities so that the medical profession of the nation may present a compact and effective organization for the purpose of aiding effectively in the national defense. In order that this plan may be carried out with uniformity and precision throughout the country, the various state committees have been requested to have all county committees bear the following distinguishing name, to-wit: The Auxiliary Medical Defense Committee of.....County, in.....State. The state committees have also been requested to provide that the county committees shall include the following in their list of members:

1. All members of National Committee of the Committee of American Physicians for Medical Preparedness, resident in the individual county.
2. Members of the State Committee resident in or near the individual county.
3. Representatives of the U. S. Army resident in the individual county.
4. Representatives of the U. S. Navy resident in the individual county.
5. Representatives of the U. S. Public Health Service resident in the individual county.
6. Representatives of the State Board of Medical Examiners residing in the individual county.
7. Representatives of the State or City Public Health Service.
8. Ranking medical officer of the National Guard.
9. President and Secretary of the local Medical Officers' Reserve Corps Association, if there should be such an organization.
10. Deans of medical schools.
11. President and Secretary of the County Medical Society.
12. President and Secretary of any other important medical societies.
13. Medical Director of the local Red Cross Units.
14. Other representative medical men.

Duties of County Committees

From time to time specific duties will be assigned to the various state and county committees. These duties will be in accord with the policy of the Council of National Defense, and should be executed promptly and precisely by those who are called upon to co-operate in this manner with the Council of National Defense.

The committees will call to their assistance those who have been appointed field aides by their various state committees and such other physicians as they may desire to have co-operate with them.

Among the specific duties which the county committees are requested to perform at this time are the following:

First—That these committees co-operate with the National and State Committees of the Committee of American Physicians for Medical Preparedness in their efforts to gain needful information regarding the civilian medical resources of their own communities, and in their efforts to co-ordinate civilian medical activities for prompt mobilization in case of need.

Second—That they secure applicants:

(a) For the Army Medical Corps. If the President should call the full compliment of troops already authorized by Congress, the Regular Army would need about 1,200 additional medical officers. If a million men should be called, a corresponding increase would be required.

(b) For the Medical Officers' Reserve Corps. If war should come, 20,000 to 30,000 medical Reserve officers should be enrolled.

(c) For the Naval Medical Corps which needs about 350 additional officers.

(d) For the Coast Defense Reserve Corps of the Navy. Several hundred high class reserve medical officers are desired.

(e) For the National Guard, such numbers as may be required to bring your local National Guard to full strength.

In the preparation for National Defense the first thing needed will be medical officers.

Physicians recommended for such service should be of the highest type. They should be free from suspicion of addiction to drugs or drink.

Medical officers who go to field duty should by preference be under the age of forty-five.

Third—That they co-operate, individually and collectively, with the Medical Department of the Army, Navy and Public Health Service and with the Council of National Defense.

Fourth—That they co-operate with the Red Cross in their efforts to bring that organization to the highest point of efficiency.

Committee of American Physicians—Activities Accomplished and in Progress

On the 26th of April, 1916, the Executive Committee of the Committee of American Physicians tendered the services of the committee to the President of the United States. He expressed himself as being pleased with the patriotic tender of services and regretted that existing laws did not permit the acceptance by the Federal Government of gratuitous services, but stated that the matter would be referred to the Secretary of War and the Secretary of the Navy for the purpose of devising plans by which the good offices of the medical profession could be accepted and utilized to best effect by the Federal Government. He further stated that the plans would be referred to the Committee of American Physicians for comments and suggestions. The Executive Committee was permitted to make suggestions regarding the bill creating the Council of National Defense.

During the last year this Committee and its various subsidiary bodies have been actively engaged in formulating and carrying out various activities in conformity with the general plans for national defense, which have been undertaken by the Federal Government.

The splendid work done by the various state and other committees was of such extent and value that the Council of National Defense at its first meeting requested the Committee of American Physicians to continue their various activities under the guidance of the Council of National Defense, and asked the Secretary of the Committee of American Physicians to act as chief of the Medical Section of the Council of National Defense. Since that time the various activities have gone forward with renewed energy.

Some of the activities which have either been completed or are well under way, follow:

First—Some 20,000 medical men selected from all parts of the country have been classified according to the training and the kinds of work which they do best.

Second—An inventory of hospitals and other medical institutions is well under way.

Third—It has been the fixed policy of the Committee of American Physicians to aid the American Red Cross in bringing its medical department to the highest point of efficiency. With that object in view, and in order to foster the spirit of co-operation, the members of the National Committee of the Committee of American Physicians accepted invitations to become members of the national committee of the medical department of the American Red Cross. In order further to promote the harmonious co-operation of the two organizations, most of the members of the various state committees of the Committee of American Physicians were also made members of the state committees of the American Red Cross. The various county committees will also be expected to co-operate in carrying out the plans of the two organizations.

Fourth—The establishment of military training for senior medical students in a large percentage of the high grade medical schools of the country.

Fifth—The establishment of more effective military training for hospital groups for members of the Medical Officers Reserve Corps, for dental students and others.

Sixth—The appointment of a Committee for the Standardization of Medical and Surgical Supplies and Equipment. The purpose of this work is to designate a list of articles essential to the successful conduct of civilian and military medical and surgical activities so that in the event that it should become necessary to curtail production all of the energies of the drug and instrument makers would be devoted to necessary articles rather than to those which are desirable but not essential. On this Standardization Committee are representatives of the Army, the Navy, the Public Health Service, the Red Cross, the Council of National Defense and a number of the most distinguished members of the various specialties of civilian medicine. In their work of co-ordination and standardization this Committee will take council with the manufacturers of the various supplies under consideration.

Seventh—Much valuable information supplied by medical and other observers who have worked in the war zones of Europe is being gathered and classified.

Eighth—The presidents of important national medical organizations of the country have been requested to suggest to the medical section of the Council of National Defense the kinds of work which members of those organizations are best fitted to perform, and to suggest plans whereby their activities and resources might be utilized to best advantage. This request does not contemplate an inventory and organization of these resources. The purpose is that having received suggestions offered by the various organizations, those suggestions will be maturely considered and such as conform to the plans of the Council of National Defense and can be utilized to advantage, will be adopted. The various organizations will, in that case, be requested to co-operate fully and promptly in perfecting the plans of the Council of National Defense.

The foregoing memorandum embodies only a very small percentage of the problems now under consideration. It is neither wise nor desirable, however, to present them in detail at this time.

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THE 1917 MEETING OF THE IOWA STATE MEDICAL SOCIETY

The sixty-sixth annual session of the Iowa State Medical Society will be held in Des Moines, May 9, 10 and 11. Before each annual meeting, it becomes the duty of the Journal of the State Society to call the attention of the members to matters that may come before them for consideration. We are not aware at this time of any important measure relating to the organization that will come up this year. We have, always, however, to consider certain business relations of the State Society to the profession itself. For several years, political matters have been eliminated in the main from the Society. There are, of course, questions arising that are more or less personal in nature; as to who shall be president and who shall be vice-president. These are offices which are of interest to the State Society only insofar as the question of efficiency comes in.

At the last session of the State Society, the question of our relationship to workmen's compensation came up for consideration. The industrial commission is entirely in sympathy with the views of the medical profession in regard to fair compensation for services rendered.

Mr. A. B. Funk is entirely friendly to the profession and is willing to make any concession which will put his office in harmony with the wishes of the doctor. The great difficulty lies in the kind of authority the commission is endowed with by law. There are many selfish interests involved, and it is no easy matter to reconcile all interested parties to a fair compensation of injured employes. Last year the House of Delegates refused to approve the schedule of fees adopted by the Wisconsin and New York Commission. The difficulty, as it occurs to us, in reconciling the medical profession to accept a smaller fee for injured employes lies in the fact that it is assumed that the small fee is provided for by a corporation, and that a corporation should be required to pay a fee somewhat proportionate to the profits that such corporation is supposed to secure. As a matter of fact, under the old law, the injured employe was required to pay the expense of his own care in case of injury. The state, in the interest of the injured employe, has undertaken to provide him with skillful medical care at the expense of the industry, which finally falls back on the general public. If, therefore, the state administered the insurance instead of private corporations, the medical profession no doubt would be willing to contribute its share towards welfare measures, but there naturally follows an unwillingness to contribute to the profits of a corporation which undertakes to administer the insurance, or in other words, it objects to the insurance corporation enjoying certain profits growing out of the work of the doctors. This is a matter that should be carefully discussed at the next meeting of the State Society.

In several of the states, bills have been introduced covering the subject of sickness or social insurance, which applies to persons receiving $100 a month or less. These bills have been industriously antagonized by a certain class of insurance companies which have profited by contract arrangement with medical men, presumably for the insurance company's own welfare.

The main purpose economists have had in mind in developing workmen's compensation and health insurance, has been for the welfare and betterment of the industrial classes. The whole progress has been clouded by propaganda inaugurated by the several insurance companies for their own benefit. We must take into account that all civilized countries of Europe and even the Balkan states have adopted state insurance for the benefit of a numerous class of people who are only able to make ends meet when not visited by sickness or accident. We have some of the same class in our country whose income does not permit them to meet the expenses of efficient medical treatment in case of accident and disease. This is a matter of very serious import to the profession, and it has already been intimated that doctors are quite willing to contribute a reasonable amount of service for the care of the un-

fortunate deserving, but are very loathe to make these sacrifices in the interest of private companies who have undertaken to carry a certain class of insurance. In the industrial centers, lodges of one kind and another have been organized, and contracts for very low rates have been made with medical men, oftentimes of rather questionable character.

The committee on industrial insurance will prepare a report for the consideration of the Society, and it is sincerely to be hoped that the House of Delegates will inform themselves on these questions. The matter is of so much importance, that a campaign, as already stated, is in active operation to defeat any state measures that may be adopted. It was this controversy between the profession and the friendly insurance companies, that led to the passage of the Lloyd George bill several years ago. The profession of Great Britain failed to agree on any measure of welfare service to the public, which led to a rather unjust Parliamentary action, which threatened to place an unfair burden upon doctors. From every source we gain the information that the next year or two will be actively devoted to the consideration of these questions of workmen's compensation and sickness insurance.

PERMANENT SECRETARY

Several of the larger state societies, notably Ohio and Indiana, have employed a permanent secretary who is a business man, to look after their interests, but in a state like Iowa where industrial development has not gone so far, it is quite possible for the profession itself to maintain through proper committees, a watchful care over its material interests. This will operate successfully only when the membership of the Society informs itself thoroughly on industrial questions. Industrial interest will be dependent to a greater or less extent on medical and surgical service, and if we do not get a fair recognition, it will be because we are not alive to the questions that are agitating the public insofar as we are concerned.

HEALTH OFFICERS

On this page will be found a letter from Professor Boyd which is worthy of serious consideration. Professor Boyd is in charge of the Division of Public Health at the University, and is therefore interested in co-ordinating the work of the various health officers of the state. The Journal is of the opinion that much good might be accomplished by a meeting of such officials at the time of the State Society meeting in May.

No body of medical men have a more important function or have less individual authority. It is true that the local boards of health have great police power to enforce certain measures, but it is not always used, or at least not always intelligently used. This is fully recognized by the medical member of the board. If a well considered plan of work could be inaugurated, it would result in much good. We believe that if a conference of local health officers, state board members and the university department of health could be held in Des Moines at the time above mentioned, much could be gained in the way of co-ordination of effort and fullness of purpose in this most important service.

The pages of the Journal will be freely opened to the use of the service and it will give us great pleasure to publish papers and discussions on matters of public health welfare not trenching on the functions of the state board of health publications.

March 5, 1917.

Dr. D. S. Fairchild, Editor,
Journal Iowa State Medical Society,
Clinton, Iowa.

My Dear Dr. Fairchild: As you are undoubtedly aware there are some twenty-five hundred separate health jurisdictions in Iowa, each of which is presided over by a physician in the capacity of health officer. Thus the health officers of the state constitute a considerable percentage of the total number of physicians practicing in Iowa.

The majority of them are ill paid for their work, and hence are not in a position to render their communities the best of service. However, I believe most of these men are anxious to give their communities the best service possible commensurate with the remuneration they receive for their duties. I presume, furthermore that a considerable proportion of this number are members of our State Society, and hence could be reached through the columns of the Journal. It occurs to me therefore, that the Journal might play a very prominent part in assisting these men in the discharge of their duties by maintaining a department for their special benefit.

Very truly yours,
MARK F. BOYD,
Associate Prof. in charge of Div.

MEDICAL LEGISLATION

We notice in a recent number of a Des Moines paper, a paragraph said to have emanated from a member of the legislature, asking a certain lady

why she was interested in vital statistics, and of what value vital statistics could be to the general public. When a statesman asks a question of this kind, we can appreciate how hopeless it is to bring any matter that does not relate to buying and selling, to a legislative body.

Recently another matter came before the Iowa legislature in relation to the efficiency of the National Guard as compared with the Regular Army. It appeared that the regular army contemplated some things not agreeable to the national guard, and in order to demonstrate the superiority of the national guard, over trained soldiers of the regular army, resolutions were adopted by the Senate, intending to fix the incompetency of our regular army. These resolutions sounded very much like resolutions adopted by some of the seceding states in 1860. We do not mean to infer that the Iowa legislature had in mind any of the things that the South Carolina legislature had in mind, but the purport seemed to be the same. No one would question the value of the Iowa National Guard, but it was difficult to understand how the efficiency of the national guard can be increased by abusing the regular army for things the legislators did not understand. As near as we can understand it, the regular army was created by the United States Government, and if there were any shortcomings, the United States Government was responsible for it. We believe also that the legislature of Iowa, has since it became a state, elected at least two members of United States Senate, and so far as known, none of these have identified themselves with any plan for reorganizing our military establishment. If the army was created by the individual members of our military force, that is, if they came together and formed themselves into an army, they were certainly responsible for their shortcomings, but we American people have the peculiar habit of blaming a politician for things that go wrong, just as if we were in no way responsible for the politician, and relieving ourselves from all responsibility, we are free to criticize the laws. It would be a much healthier process to criticize ourselves for the shortcomings of our agents. Coming to Iowa, we have been repeatedly informed that the percentage of illiteracy was smaller than in any other state, but if we were to consider the character of the laws passed by the legislature of Iowa, we should conclude that a low per cent. of illiteracy was an unfortunate condition, and that it would be better if we could adopt some plan to increase illiteracy, hoping thereby to bring about a more liberal and more healthy body of lawmakers. The humiliation which a loyal citizen of Iowa must feel at such illustrations of statesmanship, as we refer to, must be difficult to bear.

SCARCITY OF YOUNG DOCTORS IN THE COUNTRY

The New York Medical Journal editorially calls attention to an interesting medical fact that might be considered seriously. It is said that from time to time the deans of medical colleges receive requests from country towns for young doctors. It appears that many young practitioners would rather live from hand to mouth in a city than to live in comfort in a country village. It is true that quite a proportion of city physicians succeed and that a successful practice in a city is more desirable generally than in the country and it is quite natural that every young doctor believes he will be one of the successful. It is quite apparent from the proportion of doctors to population in cities that it is impossible that all can secure a living practice. The cost of living is increasing, fees are getting smaller and sickness is decreasing. The number of medical students has decreased from 30,000 to 16,000. The proportion of doctors to population of cities remain practically the same while in country towns the number of doctors is decreasing. It is believed by experienced observers that the conditions of practice in cities are getting more burdensome and unless a young man has an independent income more than at present will fail. There is a feeling that the practice of medicine as a means of earning an income is becoming less attractive. A distinguished surgeon said to me a few days ago that he had reached forty years of age before he secured enough income to more than meet his living expenses. It is probably true that many alleged large incomes are purely fictitious and the returns from income taxation would seem to prove this. We assume that it would be quite useless to advise a larger number of young graduates to seek country practice and present conditions will probably continue until they come to be so serious that more young men go to the country from absolute necessity.

A COMMISSION TO ADMINISTER WORKMEN'S COMPENSATION LAWS

Mr. Alroy S. Phillips, of St. Louis, presents some facts in relation to the necessity of a commission to administer workmen's compensation laws which are published in the Journal of the Missouri State Medical Society.

It is apparent that without adequate provision for administration, compensation acts will fall short of the purpose intended and may serve only

imperfectly to accomplish any material betterment over conditions previously existing. In all European countries which have the welfare of the industrial classes in mind, scientific methods of administrating a workmen's compensation exists and there has been no disposition to go back to the earlier period of letting the workman take care of himself; when modifications of the laws are made, it is for the purpose of greater efficiency. Mr. Phillips reviews some of the different state compensation laws. California, Colorado, Illinois, Indiana, Maine, New York, Ohio, Oklahoma, Maryland, Massachusetts, Michigan, Montana, Nevada, Oregon, Texas, Vermont, Washington and Wisconsin are administered by a commission or board of from three to five members. In other states the state is divided into districts as in Pennsylvania; in other states by the appointment of a single state officer; in Nebraska the labor commissioner or by a commissioner appointed by the purpose, as in Iowa and West Virginia. In several states there is no special officer or body to administer the law and the parties enforce their rights in the courts.

The successful administration of a compensation law involves the establishment of a competent body endowed with "legislative, executive and judicial powers which are necessary to secure a prompt and efficient administration of the law. A compensation law is of little value unless it can be administered in a scientific way. A commission should collect and compile statistics which are so essential to an understanding of the work in hand. It should have the power to regulate fees and charges for medical and legal services, burials and insurance. It must prepare a schedule for rating permanent partial disabilities and must study occupational diseases. It must give the parties advice on all questions under the law, supervise and aid their voluntary settlements, hear and determine their disputes, appoint guardians for minors, defend its awards, investigate disputed cases, commute lump sum settlements, aid in the prevention of accidents, and do all of the other things which are necessary under the law."

Mr. Phillips cites numerous cases showing the unfairness and absurdity of the compensation laws as they are administered in some of the states where no competent commission is provided for. Nearly all the compensation laws should be revised for the purpose of establishing machinery that will do justice to all parties concerned, expedite adjustments, and provide economic methods. It does not seem right that it should cost 66 cents in Wisconsin and 65 cents in Iowa to turn one dollar into the pockets of the injured industrial worker. The state should certainly do better than that. Whether it would be for the interests of the medical profession for the state to directly administer the insurance, may be a question. The economical tendencies of the state might have a serious influence on the doctor's fees and thereby lessen the efficiency of medical service. This needs watching and if any amendments of the Iowa law should be contemplated, let us see to it that suitable provision is made for compensation so that we may not be reduced to the condition of the profession in Germany and Norway.

Robert W. Lovett, M.D., in The London Medical Review (abstracted from Pediatrics), discusses the "Superstition of Flat-Foot," that so long filled the mind of the medical practitioner and later the "pronated-foot" and the "weak-foot." Dr. Lovett substitutes the term "foot strain" for that condition where the weight bearing structure of the foot is so changed that the arch is lowered by the relaxation of ligaments and muscles and the pain which results from the malposition. Dr. Lovett admits the existence of flat-foot but holds that the term should be restricted to feet that touch the ground where the arch should be; that these feet are rigid and not generally painful. According to this author, the high arched foot is most liable to give trouble; this was especially observed among nurses working on a day and night service in a general hospital. Many of these nurses suffered from painful feet without any lowering of the arches, while six nurses having perfectly flat feet were free from trouble.

The conclusion reached by the author is that most painful feet are not flat feet but that the pain is due to strain of the muscles and that the treatment should be directed to relieving this strain by properly fitting shoes and by steel arches. The painful real flat-foot should be treated by some operative procedure. The principle involved in the treatment of "foot strain" is to give rest to the irritated muscles. This of course involves a study of the foot itself and the kind of shoe worn. That it is not generally practicable to have specially made shoes but a ready made shoe selected with special reference to the arch which in high arched feet should be reinforced by adjusting a steel arch not so high as to so press on the arch of the foot so as to contuse it or so low as to flatten the foot and thus induce strain of the muscles.

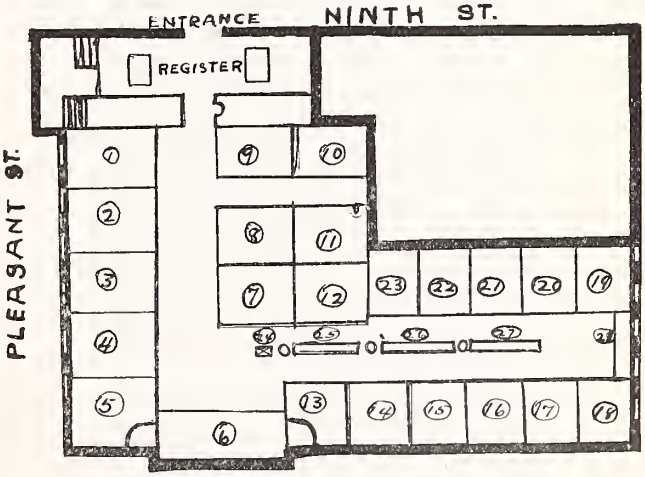
CARE REQUIRED TO PREVENT ESCAPE OF PATIENTS FROM PRIVATE INSTITUTIONS

(Torrey vs. Riverside Sanitarium [Wis.], 157 N. W. R. 552)

The Supreme Court of Wisconsin affirms a judgment for the defendant, which was sued for damages for personal injuries alleged to have been caused the plaintiff by shock and fright from a partly clad patient coming to her home and demanding the use of the telephone and asking for some clothes. Two days before the patient had voluntarily come to the sanatarium accompanied by a male relative. His physician had previously informed the superintendent that he seemed to be in a confused state of mind and had had certain obsessions for a couple of days, and wanted him kept under observation to see whether his mental condition was a mere brain trouble, or the result of some acute disease like typhoid fever coming on. The second night the patient got up, dressed, and left the institution without permission or the knowledge of the night nurse. He returned in the morning. To prevent any recurrence like that, he was told that it was desired to transfer him to another department, to which he said "all right." He got out of bed, and with his underclothes on and a blanket thrown over him was conducted by a bath attendant from his room up a stairway toward the men's hall. He seemed to go with perfect willingness. The superintendent followed them along the corridor to the foot of the stairway, and then proceeded toward his office. The patient and attendant walked side by side up stairs, when he suddenly threw off the blanket, of which the attendant had hold, and pursued by the attendant, made his escape, running across the fields until he came to the plaintiff's dwelling house as stated above. The jury found that the defendant had not exercised ordinary care while transferring the patient; that such want of ordinary care was the proximate cause of her injury; and that the sum which would reasonably compensate her for her injuries was $1,000. On motion, the trial court changed the answer as to the failure to exercise ordinary care, and rendered judgment for the defendant, which is affirmed, by the Supreme Court. The latter says that doubtless it is incumbent on the defendant and its employes at all times during the treatment of nervous and insane patients to use means to restrain and guard them as would seem reasonably sufficient to an ordinary prudent man under like circumstances to prevent such an occurrence as took place here, and for breach of that duty liability will arise, if such breach proximately causes injury to another. The trial court held that the evidence would not justify a finding of breach of that duty in this case, and the Supreme Court cannot say that this conclusion was wrong. It is to be remembered that the patient in question never exhibited symptoms of violence; that he came to the institution voluntarily, and was apparently normal, and entirely tractable; that at the time of his escape there was a male attendant at his side; that an attempt to place greater restrictions on his liberty might easily have resulted in exciting the patient and producing serious results; and, further, that the defendant is a private institution receiving voluntary patients, and not a public institution receiving patients on legal commitment. There are probably no questions more delicate than the questions arising as to the proper care of such patients. Humanity demands that they be treated and cared for somewhere, but it cannot demand omniscience in that treatment. The same measures may produce the best results in some cases and the worst in others. The evidence impresses the Supreme Court with the belief that the defendant's employes were performing an exceedingly difficult task with all the care and caution which ordinary prudent persons in their situation would deem it necessary to exercise.

WITH OUR EXHIBITORS

The profession of Iowa is so well acquainted with the various firms who will exhibit their goods at the Shrine Temple, that to more than call attention to the names of these exhibitors, seems superfluous. In order that the location of the space occupied by these various firms may be accurately known, the following plan of the ground floor space of the Temple has been prepared.



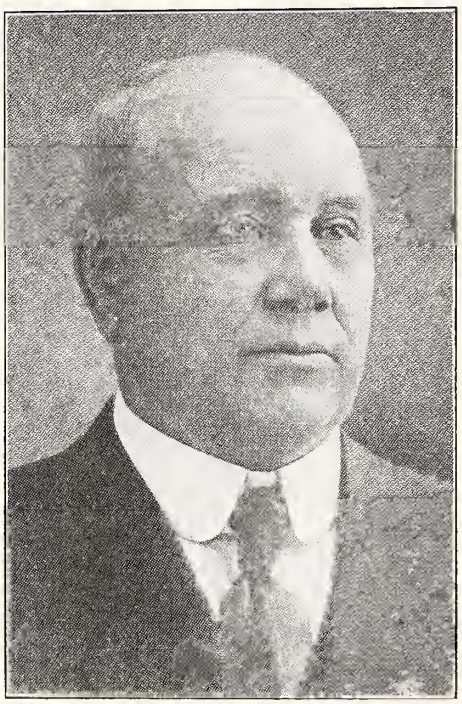
The following firms will be represented:

1. Merry Optical Company, Des Moines branch.
2. Allison & Company, Indianapolis.
3. Sharp & Smith, Chicago.
4. Wm. Meyer Company, Chicago.
5. Geneva Optical Company, Des Moines branch.
6. Standard Chemical Co., Des Moines.
7. and 8. Victor Corporation, Des Moines branch.
9. Phillips Chemical Company, New York.
10. Standard Emulsion Company, New York.
11. Olsen's "Shop for Women," Des Moines.
12. Horlick's Malted Milk Company, Racine.
13. A. S. Aloe & Company, St. Louis.
14. Geo. W. Brady & Company, Chicago.
15. W. G. Cleveland Company, Omaha.
16. Borden's Condensed Milk Sales Company.

17. H. G. Fischer & Company, Chicago.
18. The Retreat, Des Moines.
22. P. Blakiston's Son & Company, Philadelphia.
23. The Abbott Laboratories, Chicago.
X. Weder Manufacturing Company, Philadelphia.
A. C. V. Mosby Company, St. Louis.

DEATHS

William Edward Vest, M.D., aged sixty-two; College of Physicians and Surgeons, Keokuk, 1878, and Jefferson Medical College 1880; Fellow of American Medical Association; member of Iowa State and Polk County Medical Societies; son of the late Dr. John W. H. Vest; a well known surgeon of Poweshiek county, and one of the pioneer physicians of Iowa; a practitioner for thirty years at Montezuma and for the last six years at Des Moines; died at his home in Des Moines, March 22 from cerebral meningitis. His wife, a daughter, Mrs. C. E. Douglass, of Chicago, and a son, Dr. Cecil Vest, of Baltimore, Md., survive him. He was a member of the



William Edward Vest, M.D., Des Moines

various Masonic orders, also affiliated with the Odd Fellows and Knights of Pythias, and a Presbyterian in his religious faith. Dr. Vest possessed a rare affability of manner and a pleasing personality that ever won for him an exceedingly large circle of friends.

In the death of Dr. Frederick James Will, of Des Moines, on March 6, 1917, at the age of fifty-eight at San Antonio, Texas, where he had gone with his wife and daughter in the hope that he might be spared the added dangers of a rigorous winter in the north a great loss has come to the State of Iowa and a personal loss and grief to the many friends in his beloved profession as well as in every walk of life.

He was a man universally respected and loved by all who knew him well. Always kind and considerate, with ever the same genial pleasant greeting,



Frederick James Will, M.D., Des Moines

true to his friends and his manhood, careful and faithful to every duty in so eminent degree, that great corporations as individuals trusted him implicitly.

With all his success as a general practitioner, railway surgeon, and insurance director he was always modest and unassuming, though ever a student of affairs and men as well as of medicine. The highest tribute that can be paid to any man may well be given him, namely: "He was a good man, clean of thought, clean of life and true to every principal of duty to home, country and fellow man."

He was born in Story county, Iowa, June 11, 1859, and was reared on a farm. His common school education was supplemented by three years in the Iowa State College at Ames ending in 1876 when he entered the Naval Academy at Annapolis, where he remained until 1879 when he resigned. In 1883 he graduated from the Medical Department of the State University of Iowa. He taught school during vacations from his college course in Polk and Story counties.

He practiced medicine for two years at Jewell Junction and fifteen years at Eagle Grove. The last seventeen years he had resided in Des Moines and during that time had been medical director of the Bankers Life Insurance Co. and for over twenty-five years was division surgeon of the Chicago, North Western Railway Co.

He leaves a wife, son Dr. Frank A. and daughter Hortense to mourn his untimely death.

(Continued on Advertising Page xviii)

Liquid Petrolatum, Squibb

(Heavy Californian)



Accepted by the Council on Pharmacy and Chemistry, American Medical Association

A pure. colorless, odorless and tasteless mineral oil of the naphthene series of hydrocarbons.

SPECIALLY REFINED FOR INTERNAL USE

Liquid Petrolatum, Squibb, (Heavy Californian), is recommended to the medical profession for preventing absorption of bacteria from the intestine and for restoring normal bowel functioning.

It is the most viscous mineral oil on the market; which viscosity is true, i. e., natural, and is effective at the temperature of the inside of the intestine.

It may be administered in any quantities necessary. Its use does not form a habit.

As it is not absorbed it is indicated to regulate the bowels during pregnancy and lactation.

Sold only in one pint original bottles under the Squibb label and guarantee.

Dr. Ferguson's concise handbook on Intestinal Stasis and Constipation will be sent free to any physician on request.

MEDICAL DEPARTMENT

E. R. SQUIBB & SONS, New York

Manufacturing Chemists to the Medical Profession Since 1858

DEATHS

(Continued from Page 164)

Dr. Will was a member of the county, state and American Medical Associations. He was an adherent of the Episcopal faith, a Mason, being a member of Capital Lodge No. 110, Corinthian Chapter No. 114, Royal Arch Mason, Temple Commandery No. 4, Knights Templar and a Noble of Za-Ga-Zig Temple of Mystic Shrine, Odd Fellows, Knights of Pythias and Sons of the American Revolution, to which latter he was entitled from both parents.

His membership in the State Historical Society of Iowa, Golf and Country Club and Hyperian Club of Des Moines, bespeak his standing and popularity in social circles.

He was for one and one-half years surgeon general of Iowa during Governor Cummins administration.

The medical profession of Iowa will long cherish his memory in tenderness and all extend their most sincere sympathy to the bereaved family.

C. E. Ruth.

Thomas Gerard Stephens, M.D., aged eighty-four; Western Reserve University School of Medicine, 1856; first president of the Fremont County Medical Society; located at Sidney in 1864 where he practiced his profession for many years; died at the home of his step-daughter in Sidney, March 20.

J. D. McNeiley, M.D., aged sixty-five; College of Physicians and Surgeons, Keokuk, 1886; died March 9, from injuries received in an automobile accident near his home at Sewal.

John A. DeArmand, M.D., aged sixty-five; University of Pennsylvania, School of Medicine, 1876; member of the Senate of the Thirty-second and Thirty-third General Assemblies of Iowa; a practicing physician at Davenport for the past twenty-seven years; died at his home in Davenport, March 23, from arteriosclerosis.

BIRTHS

Dr. and Mrs. J. R. Condon, Des Moines, March 5, a daughter.

Dr. and Mrs. H. E. Harlow, Zearing, March 16, a daughter.

Dr. and Mrs. L. W. Clark, Chester, a son.

MEDICAL NEWS

Dr. C. M. Werts and Dr. E. R. Posner, of Des Moines, recently returned from a trip to Cuba, Costa Rica and Panama.

Dr. J. F. Auner, of Des Moines, was in attendance recently at a clinic of Dermatologists in Chicago.

Dr. I. J. Gibson, of Fontanelle, has gone to Europe for medical services in the British army.

Dr. W. A. Bryan, formerly second assistant superintendent at the State Hospital at Cherokee, has been appointed first assistant superintendent of the Danvers State Hospital at Hathorn, Mass.

Dr. Tom B. Throckmorton, of Des Moines, who was recently elected to membership in the Chicago Neurological Society, read a paper on Conjugal Tabes Dorsalis before that society March 15.

NATIONAL BOARD OF MEDICAL EXAMINERS EXAMINATION

The second examination to be given by the National Board of Medical Examiners will be held in Washington, D. C., June 13, 1917. The examination will last about one week.

The following states will recognize the certificate of the National Board: Colorado, Idaho, Iowa, Kentucky, Delaware, Maryland, North Carolina, New Hampshire, North Dakota and Pennsylvania. Favorable legislation is now pending in twelve of the remaining states.

A successful applicant may enter the reserve corps of either the army or navy without further professional examination, if their examination papers are satisfactory to a board of examiners of these services.

The certificate of the national board will be accepted as qualification for admittance into the graduate school of the University of Minnesota, including the Mayo Foundation.

Application blanks and further information may be obtained from the Secretary, Dr. J. S. Rodman, 2106 Walnut street, Philadelphia.

Special Exhibit

Spencer Rejuveno

Corsets

During the annual meeting of the Iowa State Medical Society, we will make a special exhibit and display of Spencer Rejuveno Corsets in a booth at the Shrine Temple.

The convenience of this booth will make it easy for physicians to become more familiar with the advantages of Spencer Supporting, Corrective and Maternity Corsets. Every Spencer is made to individual measurements. Miss Ann J. Jones, in addition to her experience as a Registered Nurse, has taken a special course in fitting. Your patients are assured exceptional results.

Our complete line of Rubber Goods, Trusses and other Specialties for Women and Children will be represented in the exhibit, which you will surely find interesting.

The Shop For Women

A Department of Olsen's Pharmacy

228-240 K. P. Blk., Sixth and Locust

The Journal of the Iowa State Medical Society

Vol. VII | Des Moines, Iowa, May 15, 1917 | No. 5

THE REMOTE AND SYSTEMIC EFFECTS OF FOCAL INFECTIONS*

E. T. Edgerly, M.D., Ottumwa

The members of our profession are now so lavishly supplied with journals and magazines and the more solid text-books, treating of every phase of every subject of interest to those studying disease and seeking to prevent, mitigate or cure it, that one who is not himself engaged in research work, or who has not earned a place in his profession giving him authority to speak, may well feel some hesitancy to present a subject to a society of the importance of this one; he may properly fear he may be only rehashing material already familiar to his hearers and that in a manner to bore them. Yet believing that the discussion of our daily problems is of great value by bringing out opinions and experiences which may agree or may vary as to the lines of treatment which are being advocated, I venture for a few minutes to present to you the subject of the "Remote Effects of Focal Infection," particularly the chronic cases.

We all know how dissatisfied we feel with ourselves when we leave cases which we know we have not gotten to the bottom of, where the diagnosis has not been definitely made and for which we have prescribed symptomatically only and we eagerly read our new journals and text-books seeking new light on the hitherto unsolved problems and take renewed interest when some brother seems to have opened a new door of escape.

We live in an age, however, where men are not satisfied to hide in a napkin the talent entrusted to them by their teachers, but they are putting it to use to gain other talents; in the homes of the people, in hospital wards, in the dead houses, in the laboratories of the world, with the thermometer, and stethoscope, scalpel and aspirator, test tube and microscope, culture media and incubators, thousands of men and women are striving to bring to light the causes of disease and though one, ten, one hundred, nay, six hundred and five experiments avail nothing, the 606th may bring help to thousands. So we all hail with delight announcements of discoveries of causes of or remedies for diseases; the narrowing of the field occupied by the so-called idopathic group; the tracking out, identification and conviction, before trained jurors of the plasmodium malariæ as the disturber of the peace of thousands; of the Klebs Loeffler bacillus as the robber of homes of their dear ones; of the little rod accused by Robert Koch of being the slayer of millions.

As citizens of these United States, we sorrow over the war which is laying waste the countries of Europe; and as citizens of the great republic of sciences and letters, which knows no boundaries of race or country, we mourn that so many of our brothers over there, many of them eminent in research, have had their work interrupted and that many of them have already given their lives in trench and hospital, and we pray that peace may soon permit the survivors to cease fighting one another; that they may again, side by side, take up the struggle against the common enemies of our race. For life is real, life is a battle, contests are constantly on between the cells of our bodies and the hostile invading cells, and physicians need to be wise generals to direct the defensive forces.

For a considerable period, we have had a fairly good understanding of the acute infections; we knew that a suppuration in a finger could make the whole body sick; that typhoid bacilli and their toxins could be carried by the blood stream from ulcers in the intestine to all parts of the body; that a tonsillar infection was accompanied by chills, and pains in muscles and joints, but we stopped there and with the cessation of acute hostilities we thought peace had been declared and we could do little but pension the cripples.

We have for years also known and treated chronic arthritis, nephritis, neuritis, myocarditis, myositis, and while in many cases we have thought from the history we could surmise an etiological connection between the present condition of our patient and some previous illness, oc-

*Oration on Medicine Sixty-Fifth Annual Session, Iowa State Medical Society, Davenport, May 10, 11, 12, 1916.

cupation or habit of living, yet we frequently had to be content with giving the diagnosis and directions to the patient as to how best to live in his crippled condition, supposing that the villain who had started the fire, had done his worst and gone his way, not knowing that he was still lurking about the premises and occasionally stirring up the embers. The foes within are more to be dreaded than the foes without.

Living as we do in the time of wars and rumors of wars, one may perhaps be pardoned if his medical vocabulary has injected into it some of the military nomenclature.

The Greeks concealed in the body of the wooden horse which was permitted to enter the City of Troy, in one night lay captive that city which for ten years had withstood their assaults from without.

If an invading army withdraw from the country invaded, but leaves behind, concealed or disguised, small bodies of troops, directed to secretly poison springs, tamper with wires, let loose poisonous gases, the citizens of that country must continue to suffer until some good detective work has been done and the enemy discovered and summarily dealt with. I believe that the work which has already been done in the study of focal infection has been splendid detective work, followed by the execution of just verdicts.

The establishment of the modern hospital with staffs of physicians, each expert along his chosen line, and the great impetus given in late years to laboratory research, the uniting of effort in "team work," have made possible a more systematic and scientific attack on the pathological problems which are constantly confronting us.

The work of these teams is splendidly exemplified in our western medical center of Chicago, in the accomplishments of that group of workers of which Dr. Billings as clinician, and Dr. E. C. Rosenow as bacteriologist, have been leaders. They have been studying those chronic diseases which have often been bugbears to us because we could not get at the causes beneath them, and while they have found no panacea, have at least opened a door of hope.

Experiments, which were steps in the development of their studies, were the excising of tissues, such as muscles from the living and the examination of them histologically and bacteriologically, as well as of the tissues removed postmortem, which has shown inflammatory changes and the presence of recognized organisms; the injection of these organisms into animals is followed by the production of lesions of the same kinds as are known to be commonly found in the human animal, *e. g.*, myositis, neuritis, endocarditis, etc.

The study of these micro-organisms in culture media and in the bodies of inoculated animals, reveals interesting and important hitherto unknown facts. It was found that by varying the composition and conditions of the culture media, by passing the germs through different animals, etc., the form and conduct of cocci could be changed at will and that strains, which had been supposed to be entirely distinct from one another, could come from the same original stock. Rosenow found that by injecting cocci isolated from different diseased organs, *e. g.*, the appendix, the stomach ulcer, the diseased endocardium, and inoculating large series of animals, that whereas various lesions of a number of organs and tissues would be discovered at postmortem examinations of these animals, the prominent lesions in a large percentage of cases in each series would be the same as that from which the cultures were taken, that is to say, appendicitis prevailed in animals injected with cultures from appendicitis cases, and so forth.

Dr. Rosenow epitomizes his belief based on his work as follows: (Journal Infect. Dis. Jan., 1914) "The fact that variations in oxygen tension and salt concentration, that growth in animals commonly call forth mutational forms in streptococci, suggests strongly that similar changes might occur in various foci of infection where such condition may prevail.

It would seem, therefore, that focal infections are no longer to be looked upon merely as a place of entrance of bacteria, but as a place where conditions are favorable for them to acquire the properties which give them a wide range of affinities for various structures."

As showers of seeds of all kinds wind-borne over the flanks of mountains, scattered everywhere, find varying conditions of soil, heat and moisture and thrive in proportion as they happen to fall in conditions made favorable to them by the experience of generations of forebears, so that the lichen survives on the surface of the cold bare rock, and delicate flowers must have damp, warm places; so various strains of cocci live or die according to the local conditions of the organs in which they are lodged by the blood stream. As in the parable of the great physician, some seed died or was devoured, other sprang up quickly and soon perished, and still other brought forth 30, 60, or 100 fold, according to the soils into which they happened to fall.

These facts were scientifically interesting, but brought to the attention of the clinicians of the "team," who had been like the rest of us, seeing

and treating cases of myositis, neuritis, myocarditis superficially and in a way and with results not satisfactory to themselves, or their patients, they pricked up their ears and put their brains to work. Given a diseased muscle, joint, organ or nerve, and the finding in it of well known infecting organisms, how may that knowledge be used to relieve the patient from the further action of those organisms and their poisons. The germs found in heart valves and joint tissues, were remote from the external world, but as we, though thousands of miles from the seat of the fighting in Europe, suffer its consequences, because in this age, routes of communication bring distant points in close relationship, so the routes of circulation of blood and lymph make all parts of our bodies suffer together. The clinician studied those parts of the body where disease germs can most readily gain access to it, the ports of entry, where the supplies necessary for the building, repairing and warming of our organism are taken in, for it is known that deadly bombs may be concealed in cargoes of harmless and useful merchandise. They already knew that disease comes to us largely air, water and food-borne and also by backward currents from ports of discharge.

Then naturally they investigated the mouth and nose and their communications; they knew the tonsils particularly suffer frequently from invasion, and these have clinically long been connected with the various ailments classed as rheumatic. These were studied and organisms of course found in abundance.

Pneumonia germs are frequent inhabitants of the respiratory tract of healthy individuals. The organism of meningitis is found in the nasal mucous membrane.

Diphtheria germs lodged in the throat frequently incite a nephritis; the typhoid bacillus from its usual habitat in the patches of Peyer may arouse a cholecystis or a pyelitis. Then Rosenow's work demonstrating the mutability of streptococci was another link in the chain.

Arthritides have been given special study and the changes of chronic deforming arthritis are best understood through the circulatory disturbances produced in the joints by the mycotic emboli lodging there. It was discovered that in the tonsillar and rheumatic affections at times there is a thyroiditis developed with frequently a rapid pulse, tremor, etc., and that this condition has been relieved by a tonsillectomy.

Dr. Billings gives the order of importance of ports of entry and the systemic results as follows: 1. The faucial tonsils and tissues about them; these tissues are abundant and active in the young. 2. The gums and alveolar processes. 3. The sinuses of the head—those chambers accessory to the air passages. 4. Bronchiectatic and lung cavities. 5. Chronic gastric and particularly intestinal ulcers; this connection is not so clearly demonstrated. 6. Chronic appendicitis producing frequently cardio-vascular damage. 7. Cholecystitis and cholangitis. 8. Infections of the urinary tract. 9. Infections of the genital tract, particularly of the prostate and Fallopian tubes. 10. Local septic submucous and subcutaneous foci anywhere.

The systemic or remote effects are:

1. Chronic arthritides.
2. Nephritides, acute and chronic.
3. Cardio-vascular degeneration.
4. Chronic neuritides and myalgias (or myositis).

The histories of cases which have been treated along the lines indicated by the pathology, confirm the correctness of the theory of their causation.

The treatment consists in endeavoring first to determine the focus and this cannot always be easily determined, but the more thorough the equipment and the examination by specialists, the nearer the truth we may come; this requires the use in some cases of all our modern equipment, roentgenograms (for the teeth) the assistance of the throat specialist, the examination of stomach contents, of stools, the testing of the urine, of the blood and the bacteriological examination of blood, fluids and tissues. This is not possible for all of us to do, but knowing that the tonsils and the teeth are the chief offenders, we may give them special attention and where anything in the history suggests their relationship to the disease, we may attack them. The fact that tonsils which superficially look healthy, have on their removal shown abscesses behind them, may well give us courage. So many of the sufferers from these maladies have become so incapacitated and desperate, I think we are warranted in advising them to try the treatment, for many results have been surprisingly successful.

The removal of the focus of infection may be followed by the injection of autogenous vaccines prepared from the pus found in the focus; this is done with a view of raising the resistance, and in some instances shows a response by local and general reactions. The surgical treatment does not dispense with the recognized medical and dietetic treatments, *e. g.* in arthritis, rest, full nourishing diet and the use of passive movements to break up adhesions and improve the circulation in the joints.

I shall not burden you with detailed histories, but briefly recite a few cases from my own prac-

tice and those in which I have been associated or known of through colleagues.

A lady in the fifties, who had suffered for years with a sciatica and whom I could only temporarily relieve and not satisfactorily do that, who was a constant user of aspirin, her tonsils, showing trouble, they were removed and vaccines used. She has felt no need of aspirin since leaving the hospital and volunteered her belief in her cure based on the fact she had sat on a window ledge and washed windows, a position she had not been able to assume in a long time.

A young lady of thirty with a beginning marked arthritis deformans; tonsils removed and then some teeth extracted; vaccines prepared from the alveolar discharge were injected, the joint discomfort ceased and the process was checked. One knee had become partially ankylosed and flexed. This is being successfully straightened, though she will still use a cast until full straightening is obtained.

A man in the fifties, who has had a sciatica for over twenty-five years and has lost months of time, has visited various springs and taken all kinds of massage treatments and constantly used large doses of aspirin to get relief; I told him without assuring him of success, that he was entitled to have the treatment tried. His tonsils were removed under local anesthetic, vaccine prepared and used and some teeth drawn. He says for himself that he is delighted with results and while he is not absolutely well, he is improving, has used practically no drugs for pain since and will be satisfied if he remains as he is now.

A young woman in the thirties, who has suffered several attacks, lasting months, of acute articular rheumatism, leaving her mitral valve crippled, and has been to springs. On an attack of rheumatism coming a few months ago following a sore throat, as soon as it seemed safe, her tonsils were removed and vaccines were given. This case is quite recent and it may be too soon to draw conclusions, but the patient says she feels in perfect health.

One lady past fifty with a very severe arthritis deformans, with partial to total ankylosis of many large and small joints, did not show any marked change.

A man of thirty years, who suffered from a chronic arthritis of the knees, so that he had to walk with canes and had visited springs, was almost entirely relieved; no vaccines were used.

Nurse, aged thirty, with recurrent rheumatism, incapacitating her, was relieved entirely; no vaccines.

Woman of fifty, an arthritis was decidedly improved; vaccines used.

Woman of forty, repeated attacks of rheumatism, entirely relieved; no vaccines.

Woman of thirty-six, rheumatic, frequent visitor at springs, practically relieved; no vaccines.

Lady in thirties, brachial neuritis gone on to paresis, after months of rest and usual medical and local treatments, first showed any real improvement and finally a recovery after removal of tonsils and the use of vaccines.

A STUDY OF THE SACRO-ILIAC ARTICULATION*

J. N. WARREN, M.D., F.A.C.S., Sioux City

In recent years a number of articles have been published specifying a chain of disabilities attributed to a disturbance of the anatomical arrangement of the sacro-iliac articulation. Before giving an enumeration and discussion of these claims we will review the anatomy. The sacrum with its triangular form, presents for examination four surfaces, an anterior and a posterior surface, two lateral margins, a base and an apex. In the erect posture, the sacrum lies obliquely, being directed from above downward and backward. A bone which articulates with the fifth lumbar vertebra, and a truncated apex which articulates with the coccyx. The anterior surface directed downward and forward, is concave from above downward and from side to side. The posterior surface is strongly convex and rough. On each side of the base, the conjoined transverse and costal processes form a broad surface, the wing or ala of the sacrum. The lateral surfaces are thick and broad above, but narrowed below. These surfaces articulate with the ilium. Thus we note that the sacrum is a wedge which converges from above downward and from before backward. The symphysis pubis is the junction of the ilium in front. The ligaments are, sacro-lumbar, ilio-lumbar, anterior, posterior, superior, and inferior sacro-iliac and the interosseous.

This interosseous ligament binds the sacrum to the ilium, and is devoid of a synovial membrane or sac, producing a true synarthrosis or immovable joint. The other ligaments pass in different directions, firmly binding together the joint. The interosseous fibrocartilage varies in thickness, but is more developed in the female. In addition we should remember attachment of those muscles having origin in the abdominal, lumbar and dorsal regions with insertion at the pelvis and those having origin from the pelvis with insertion to the femur. The psoas magnus with its lumbar origin and femur insertion has an indirect influence upon the pelvic equilibrium, the iliacus muscles having their origin within the pelvis and insertion to the outer surface of the tendon of the psoas, through which it is attached to the small trochanter of the femur. The ligaments of the symphysis pubis are the superior, inferior, anterior, posterior and the interosseous cartilage.

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They are so arranged that they give a firmly fixed joint in the normal individual. The muscular attachments to the pelvis give additional support to the articulations. The spinal muscles with their elaborate fibrous attachments, are important elements, also the abdominal muscles attached to the pelvis. The sacral pelvis of nerves is formed by the smaller part of the fourth and fifth lumbar, the first, second, third and part of fourth sacral nerves. The great sciatic nerve is a continuation of the upper band of the sacral plexis.

It is claimed that the sacro-iliac and symphysis pubic junctions permit normally of some motion, even when the ligaments binding the various parts of the pelvis, or of the pelvis as a unit to contiguous bony structures, remain intact. Young, from whom I largely quote, states that there are rocking movements of the sacrum on a horizontal axis situated at or about the middle of the sacro-iliac articulation. He also claims that cases of sciatica, lumbago, backache, or kindred affections find their etiology in the too movable sacro-iliac articulation.

Another authority asserts: "The joint is of a movable type with the bearing surface perfectly smooth and containing a true synovial sac, held in articulation simply by means of ligaments." This claim is so plainly absurd that no discussion is merited. The articulation is said to be weakened by relaxation of the ligaments as the result of illness. As a further proof of motion in the sacro-iliac joint is mentioned the supposed relaxation of the ligaments during pregnancy, which may not be restored after confinement, hence a potent factor in causing backache and other disabilities, as nervousness, insomnia and progressive debility. The normal equopoise of the body is maintained by the flexibility of the spine. The intermediate fixed point between the body and the lower extremities being the pelvis, it is not necessary that motion be present at the sacro-iliac articulation. The claim of mobility at the sacro-iliac joint being so at variance with my understanding of the joint, that I wondered if our anatomists were wrong, or were we having evolutionary change in the formation of this joint. In order to satisfy myself, I commenced a study of all cases of backache, especially when the pain was located in the sacrum. The methods given to demonstrate mobility in the sacro-iliac joint were so unreliable that I searched for some other mode of inquiry. I was called to operate upon a case which to facilitate delivery had been subjected to a symphysiotomy. This operation was followed by infection and non-union of the divided parts. The patient having been anesthetized, I separated the symphysis about three quarters of an inch, as far as was possible and not do damage to the urethra. Repeated trials gave no motion at the sacro-iliac joint. However, the patient being in a dorsal position with the limbs extended, the effort might have given a different result had the limbs been flexed so as to relax all muscles connecting the pelvis with the lower extremities. This case suggested the method of inquiry finally adopted. In cases when the abdomen was opened, especially for pelvic work, the condition of the patient permitting, the following maneuvers were selected. First, quick firm pressure made against first one and then the other foot in the axis of the body. Second, the leg was flexed upon the thigh and the thigh upon the body, then firm pressure downward, the pelvis being slightly raised. Third, the legs being flexed, the feet resting upon the table, firm pressure was exerted in the axis of the body by grasping the symphysis pubis, making pressure upward then downward followed by lateral pressure. Fourth, extreme adduction. During these maneuvers, a hand being placed upon the inner surface of the sacrum covering the sacro-iliac articulation. In no instance were we able to elicit motion in this joint. Thirty-nine cases were recorded. We deemed this a sufficient number to demonstrate whether there was normally some motion in this joint.

In this series of cases, seventeen suffered with chronic backache. Seven were cured, four improved and six not relieved. Of the latter, three were markedly neurotic. In the first few cases, the maneuvers produced a jarring of the pelvis that simulated motion at the sacro-iliac joint, but closer observation proved that it was not motion. In making tests, great care must be exercised to not confuse muscular movements, as the sudden contraction of the glutea and fixation of the spinal muscles as when the Kering test is used. In a number of office cases, the patient was laid upon a table face downward and then pressure made against the foot in the axis of the body. In this position all of the muscles were relaxed.

Symptomatology—Pain is the most prominent symptom. This may be located in the sacrum, at the sacro-iliac joint, or higher up in the back, sciatica, preternatural mobility and change of attitude. It is claimed that the dislocation is partial and usually unilateral. Relaxation of the sacro-iliac ligaments permits the displacement which in turn produces pressure against the sacral plexus of nerves. It is remarkable that but one side should be affected. Why should we not reasonably expect the condition to be bilateral as a ma-

jority of the cases are in females who have borne children. It is stated that these ligaments become relaxed during gestation. What evidence have we to prove this assertion? One case does not establish a rule, but is significant. In a case of pregnancy, a measurement of the diameters of the pelvis was made each month during gestation to determine if any change took place. Each time they were practically the same. Remembering the distribution of the sacral nerves, it is worthy of note that no mention is made of pain in organs and muscles supplied by these nerves.

In order that displacement can take place at the sacro-iliac joint, a separation of the interosseous ligaments from the rough bony surface of the ilium or sacrum must occur. The claim that a rocking motion of the sacrum in a horizontal plane, with a fixed point near the middle of the sacrum occurs, ignores the wedge shape of the sacrum from before backward, also the ligamentous and muscular attachments to the coccyx. In order that this movement be possible, the flange edge of the sacrum must be broken off on both sides, and a tearing loose of the posterior sacro-iliac ligaments. This is possible only by great violence. It is a well established fact that fractures of the sacrum, symphysis pubis and ischium, are very rare. So long as the continuity of the pelvic circle is maintained, I believe no separation of the sacro-iliac articulation will occur.

Treatment—The displacement of the bones having been corrected, some mechanical appliance is adopted. That most often used is a pelvic girdle made of leather or some less firm material. Others apply adhesive straps. Assuming that a partial displacement is present, is it reasonable to expect an appliance of any kind will exert sufficient pressure to hold the bones in apposition against the superimposed weight of the body, especially where the patient is in motion? If an arthritis is present causing the pain, would you crowd the surfaces together? This is not the treatment adopted in painful joints of the extremities. I believe the claims made are largely false. The many followers of the teaching represents a psychical storm. The purpose of this study has been to ascertain if normal motion was present at the sacro-iliac joint. The result of this inquiry has been that the sacro-iliac articulation is not normally immovable. That cases of malformation of the joint may occur, or partial displacement caused by trauma are met with, is not disputed. Backache being the symptom, for which this claim of sacro-iliac displacement was put forth as the etiological factor, it will be proper for us to discuss. In the cases recorded, no case of pain in the back is utilized when above the lumbo-sacral articulation, except as an association.

Morris states that the extreme pain and obstinacy of sprains of the back is owing to the great number and complexity of the tendons of the muscles which lie on either side of the spine, the firmness and inextensibility of their sheaths, also the large amount of cellular tissue.

During five years we have recorded sixty-nine cases of backache, chronic fifty-nine, acute ten. In the chronic cases there was present the following complication: Uterine fibroid, three, hemorrhoids six, chronic urethritis five, cystitis five, uterine polipi, cervical one, fistula in ano two, puerperal salpingitis eleven, twenty-six uncomplicated.

In ten acute cases, two were caused by a twisting of the body, the patient lifting a case of goods from one truck and loading it upon another. In one of these two, pain was also complained of at the lower rib line. The latter persisted for a number of days after the pain at the lumbo-sacral line subsided. Two suffered sharp pain at the lumbo-sacral line after lifting cans of cream from a car on to a truck, one caused by a bale of waste falling from the hands of a fellow laborer standing in a freight car, the patient standing upon the ground, the bale of waste striking him on the back of his shoulders, buckling him forward; one struck by a baseball upon the sacrum; six came on suddenly without trauma.

In all of the cases caused by trauma, I think the seat of the lesion was in the muscular or fascial attachments to the pelvis, being strained. The transversalis fascia joins the pelvic fascia. Reynolds and Lovett have given us the only scientific publication on the subject of "Chronic Backache;" Dr. Lovett from the standpoint of an orthopedic surgeon, Dr. Reynolds as a gynecologist. They devised mechanical means for ascertaining the center of gravity of the body in the erect position and determining what effect was induced when the normal center of gravity was changed. The symptoms were attributed to strain of the muscles of the back. The kind of corset proper for the treatment of these cases is specified, the conclusion being that the majority of cases were static. The literature on the subject of backache is growing, and much confusion demonstrated in the nomenclature. We must differentiate hysterical spine, neurasthenic spine, weak back, uterine backache, irritable spine, etc.

Two muscles of the back, the sacrospinalis and the multifidus spine, bear an important relation to the cases of so-called stitch in the back. They are attached to the posterior surface of the

sacrum and the deep fascia. In my opinion, these muscles are frequently strained by overwork, causing pain in the sacro-iliac region. Hence it is reasonable to class most cases of backache as static.

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Discussion

Dr. C. H. Magee, Burlington—I was interested in the gynecological points of the discussion, but if I understood the essayist correctly, I believe that I shall have to take issue with him in regard to the synovial cavity in the sacro-iliac articulation. I have had opportunity to study this articulation several times, being able to do so through my anatomical work in trying to determine the journey pus takes in passing from the ischio-rectal fossa. Sometimes it takes a very peculiar course. and in trying to investigate the layout of the pelvic fascia, I have had opportunity to study the sacro-iliac joint. In doing this work I first take off the right acetabulum, and when I have demonstrated the fascia at that side, I then disarticulate the remainder of the os innominatum at the right sacro-iliac articulation. On one occasion I was working on the bodies of two Assyrian peddlers who had died from the effects of gas. One was eighteen and the other twenty-two, and there were decided synovial cavities in both joints. Of the sections I have made in the past fifteen years, I believe that seven out of ten have these synovial cavities. I do not know that I have demonstrated transverse movement in this articulation, but from my work on these subjects I believe that such is undoubtedly the case in the majority of people. Cunningham says there is movement in this joint. As to backache and conditions of that kind, my views do not materially differ from those of the essayist, but I most assuredly differ from him in regard to a synovial cavity in this joint.

Dr. S. A. Spilman, Ottumwa—I have looked upon these cases of sacro-iliac disease a good deal in the light of concussion of the spine that passed away so many years ago; and I still am inclined to look at it from that viewpoint. I have not seen anything that made me think there was any material dislocation in the sacro-iliac joint.

Dr. L. W. Littig, Davenport—The sacro-iliac joint is an exceedingly interesting one, and undoubtedly its mobility is varied. I cannot just now recall the name of the author of a paper on the subject, published in the Journal of the A. M. A. However, it was written by a woman living and practicing in Denver, Colorado. In the article referred to, she insisted that this joint was not only mobile, but that it was very mobile. She insisted that the symmetry and perfect development of the lower extremities of a professional dancer, were due to the mobility existing in this particular joint. She maintains that it is the duty of every obstetrician to teach his prospective obstetrical patient in regard to this joint; how that patient should be taught to voluntarily bring backwards the upper extremity of the sacrum in order to increase the antero-posterior diameter of the inlet of the pelvis. Then when the head enters the pelvis, this woman is to voluntarily tilt the pelvis the other way in order to increase the antero-posterior diameter of the outlet. That is an extreme view. Goldthwait, somewhat of an extremist, also insists that knowledge of the mobility of this joint is of value to the obstetrician; that he with his fingers may press upon the lower portion of the sacrum and coccyx to list the upper part of the sacrum backwards and thus increase the antero-posterior diameter of the inlet, and then later make pressure above and thereby increase the antero-posterior diameter of the outlet. You can take all that for good practice if you like, but it seems to me the only logical view of this joint is the one advocated by the essayist and so ably presented by Bradford and Lovett. Is Dr. Prestiss here? I wrote him about this joint and he promised to do some work on it. He has made quite a number of dissections and told me that there is no synovial membrane in the joint, and that, so far as his studies and experience go, the sacro-iliac joint is not a true joint. I agree with the essayist entirely. Suppose the joint is relaxed and that there is some motion between the ilium and the sacrum; is it reasonable to suppose for a single instant that adhesive plaster can exert sufficient force or influence to keep the bones in place when there is put upon this joint the terrific strain that must be exerted when an individual of ordinary weight is walking, throwing the weight first on one foot and then on the other? It is far more reasonable to assume and believe that the pain of backache in the vast majority of cases is a static pain, as the essayist and Dr. Lovett maintain, when one can conceive that the adhesive plaster will do something to relieve the strain on the muscles. I believe that the conception of bachache as presented by Dr. Lovett, based upon his notion of the function and anatomical structure of this joint, is the correct one and gives us an understanding of backache as it usually presents itself. Of course, I make no reference to traumatic backache, or to that which has been spoken of as "railway spine," the backache due to uterine trouble, etc.

Dr. John F. Herrick, Ottumwa—One word in regard to the mobility of the sacro-iliac joint. On a number of occasions I had opportunity to observe a woman whose pubic joint, if you will, was very freely movable. The two pubic bones could be moved upon one another to the extent of nearly an inch. There was not the least resistance at the sacro-iliac joint, showing that this joint could be easily moved. The movement was only stopped by

tension on the ligaments at the pubic junction. And then I have on many occasions, in a patient not too fleshy, put the thumb down between the crest of the ilium and the vertebræ and by exerting strong strain or pressure on the anterior-superior crest of the ilium, I have very readily detected motion. There is not the least question in my mind but that there is motion of this joint at every movement of the body. I have nothing to offer as to treatment, but I am satisfied that there is movement of the sacro-iliac joint on any occasion when strain is put upon it.

Dr. Warren—With regard to Dr. Magee's discussion, I was unable to hear what he said, hence will not attempt reply. And this applies also to Dr. Spilman's discussion. With reference to Dr. Herrick's interpretation of his case, I am entirely willing to accept it. I am much pleased to have Dr. Littig agree with my conclusion in this study. In regard to pressing against the sacro-iliac joint, which comes off in a flange-like way; when you make lateral pressure, what must you do? You have either to crowd the interosseous ligament so that it separates and slides over, or the symphysis pubis has to separate, and neither takes place. I with my son, Dr. A. M. Warren, have been studying this matter for five years. The first paper that I heard read on the subject was presented by the late Dr. Allen Staples of Dubuque, before the American Association of Railway Surgeons meeting in Chicago, and this suggested to me the possibility of something being present which I was taught could not occur. To a man who has been doing surgery for railroad companies for thirty odd years, here was another point that might come up in cases of individuals suing railroad companies for damages: Was it possible for me to know whether that was likely to take place or not? So during the past few years we have been making these investigations and doing the work without prejudice. It was immaterial to us whether motion was present there or not, but it was material from a pathological standpoint and the future treatment of those cases, to know whether we have motility in a normal case. That we may occasionally have a case from congenital formation or as the result of trauma resulting in some motion, I do not dispute, but that we have normal mobility in this joint I believe is practically, physically and anatomically impossible.

SACROILIAC ARTICULATION*

H. J. PRENTISS, M.D., Iowa City

A few years ago, Dr. L. W. Littig, of Davenport, asked my opinion regarding the sacroiliac articulation; and at the time I refused to give a statement, owing to my ignorance of the subject. Since then, the anatomical department of this institution has been working upon this problem, and submits the following findings. In the first place, the drawings of the histological and embryological preparations are projection tracings rather than free hand interpretations.

Figure 1 is the tracing of a human embryo 25 mm. in length. This tracing includes the hip joint, as well as the sacroiliac articulation. Without going into the embryology deeply, which

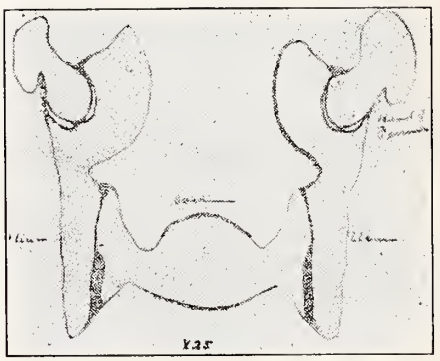


Figure 1

is discussed in Keibel and Mall, I may point out, that, in the case of the hip joint, a rarefaction occurs in the cells of the limb bud at the site of the future joint, with a resulting hip joint. In the case of the sacroiliac articulation, the process is different. Here the iliac portion of the limb

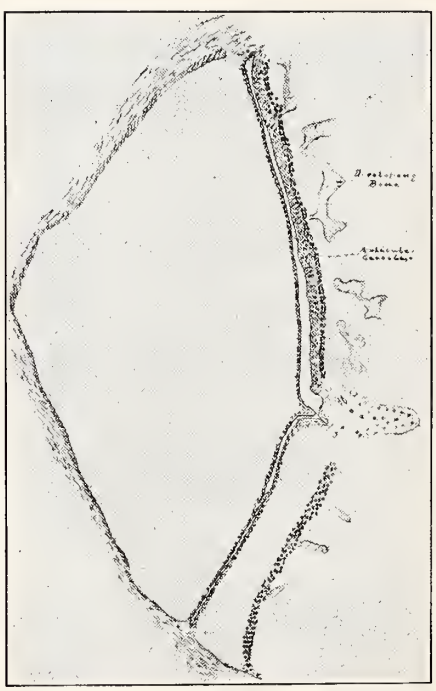


Figure 2

bud extends backwards to the sacral portion of the vertebral column, to which it is joined by a blastemal connection. This would indicate a fibrous union rather than a movable joint. We see therefore a great difference in the development of the two joints and might conclude that

*Read before the Iowa and Illinois District Medical Society, Davenport, Iowa, January, 1917.

the sacroiliac joint would be of the immovable variety. Studying Figure 2, we have a sacroiliac joint of a child at term. This is one of three joints. Here we observe a distinct cavity lined by a modified fibrocartilage on both opposing surfaces, and not by a hyaline articular cartilage. A few fasciculi are observed connecting the two opposed surfaces, indicating an effort at the persistence of the developmental condition. In the adult type Figure 3, we find a joint cavity lined by a modified fibrocartilage. It is however, a distinct joint cavity. Besides these microscopic studies, the department dissected a series of adult joints, using two methods. The first method used, was; dissecting away the superior, an-

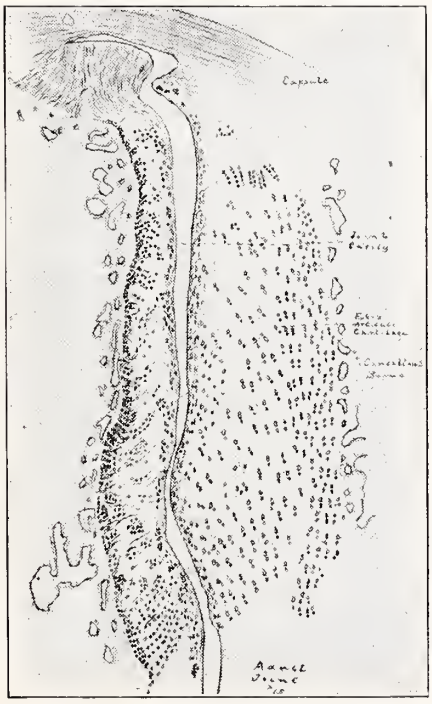


Figure 3

terior and inferior sacroiliac ligaments, leaving the posterior ligaments intact, the joint surfaces opened out, this last ligament acting as a hinge. There was no resistance due to any connecting fasciculi, and as far as I could tell, the articular surfaces showed no tearing. The second method used is as follows. Observing Figure 4, we see that the posterior limb of the articular surface of the ilium reaches to the posterior inferior spine of this bone. Injecting India ink into the joint at this point by means of a cannula, thus not disturbing the joint surfaces, the entire auricular surface, and this surface only, was suffused by the coloring matter. It was very pretty the way the auricular surfaces stood out. This method was used in eight specimens. Observations were made upon some twenty specimens. It is interesting to note, that by cutting the great sacrosciatic ligament (sacrotuberous), free lateral play of the opposing surfaces is possible. This great ligament evidently acts as a tiepiece preventing lateral movements. On the cadaver it is possible to examine this joint edge on the brim of the pelvis via the rectum.

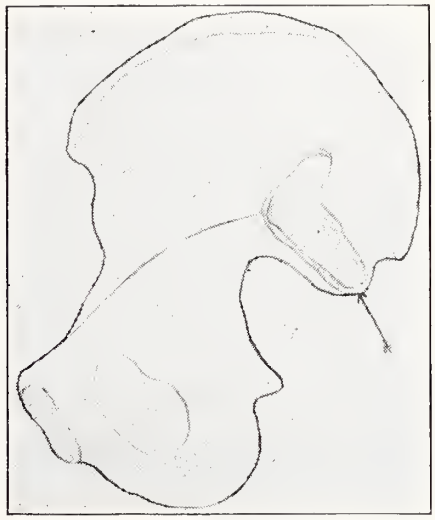


Figure 4

In Figure 5. I have drawn a pelvis from the dorsal aspect. On the left side the pelvis is clothed by the lumbo-sacral fascia and the gluteus maximus. On the right, I have drawn a dotted line from the posterior superior spine of the ilium to the tuberosity of the ischium. This line passes through the posterior inferior spine and the spine

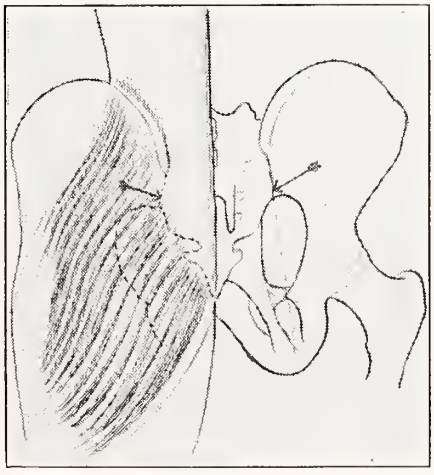


Figure 5

of the ischium. The junction of the upper third of this line with the lower two-thirds, maps out the position of the posterior inferior spine and therefore the posterior limit of the sacroiliac joint—as shown by the arrows in Figures 4 and 5.

This spine is in the curve of the great sacrosciatic foramen. A small incision through the fibres of origin of the gluteus maximus at this point brings us directly upon the joint. It was by this route I made my injections. I might suggest this as a simple approach, if it were desirable to render the joint immovable, either by mechanical disruption of the articular surfaces, or by other means indicated by the orthopedist.

SYPHILIS OF THE CENTRAL NERVOUS SYSTEM*

J. F. AUNER, M.D., Des Moines

From an obscure etiology, syphilis and locomotor ataxia has gradually become associated with the syphilitic syndrome. The so-called parasyphilis of Fournier has at last been demonstrated to be a true parenchymatous process due to the activities of the spirochæta pallida and in 1913 it remained for Noguchi to actually demonstrate the living presence of the spirochæte in the brain tissue of a paretic and the spinal cord of a patient with an obvious tabes and dying of some intercurrent disease.

In postmortem examinations of 100 brains of as many patients with general paresis who he had observed during life, Mott[1] was able to demonstrate the spirochæte in 66 per cent.

It is generally conceded that sometime during the second period of incubation, that is, sometime subsequent to the initial lesion and prior to the eruption, there ocuurs a generalized infection of all the organs and tissues of the body, the central nervous system sharing with all the other structures, the universal invasion of the spirochæte. While the early involvement is usually a transient affair, as accurate an observer as Fordyce, of New York finds distinct and well marked symptoms of brain and cord involvement in 20 per cent. of all tertiary cases. Ravaut, of Paris, even in 1903 pointed out that in secondary syphilis with scarcely any symptoms suggesting nervous lesions, other than the classical nocturnal headache, that there was present in the spinal fluid, marked luetic changes in 70 per cent. of all cases examined.

Nonne and Montoux found involvement of the central nervous system in 40 per cent. of a series of cases under investigation.

Wile and Stokes, of Michigan, in the study of a large number of known syphilitics that fully two-thirds of those examined presented spinal fluid that was strongly Wassermann positive, a characteristic excess of globulin and a marked pleocytosis.

Mott has shown that the normal cerebrospinal fluid contains no defensive protein or leucocytes and accordingly the invading spirochætes find this medium and the tissues that it bathes a safe and happy rendezvous, lacking as it does the natural protection offered by the blood current.

Clinical observers have noted what appears to be a phenomenon of selection which certain strains of spirochæta seem to affect for certain tissues. It has been suggested that one strain seems to prefer for its habitat the skin and its appendages, while another appears to have a positive predelection for the nervous tissues.

Frequently where the primary eruption is severe and disfiguring, the lesions seem confined to the skin and superficial structures, and conversely, where the secondary symptoms are slight, or absent, or of a mild pigmentary, papular or pustular type, there is often grave subsequent involvement of the central nervous system. The so-called nervous type of syphilis is shown to be a distinctive entity in the acknowledged frequency with which the marital mates of paretics or tabetics themselves become victims of brain or spinal syphilis.

Fournier cites an interesting and authentic case where five different men were infected from the same woman, herself a paretic; three of these men subsequently developed paresis and the other two locomotor ataxia.

Organic lesions of the central nervous system may be the result of any one of three distinct pathological processes: First, that of a syphilitic pan-arteritis with the endothelial degeneration culminating in arterial thrombosis and secondary softening in those areas dependent on the occluded vascular supply. Secondly, primary degeneration of the nervous element of the brain—or cord, due not only to the trauma of the spirochæte, but by the escape into the spinal fluid of certain lipolitic and proteolitic toxins evolved by the biologic activity of the treponema. Thirdly, the pressure effect of contiguous gummata arising in non-vascular tissue or a gumma infiltrating the nervous structure itself.

Marked pathology of the arterial system in syphilis is so frequently associated with lesions of the central nervous structures that when we encounter a case of aortic regurgitation in a young adult, we at once suspect an oncoming tabes. Hunt suggests that these lesions of the aorta may be the source of the infection of the parivascular lymph spaces of the posterior columns of the spinal medullain tabes.

*Read before the Austin Flint-Cedar Valley Medical Society, Charles City, Iowa, November 14, 1916.

1. Brit. Med. Jour., 1915, i, 192.

We recognize four prominent symptom complexes in the usual clinical expression of syphilis of the central nervous system which we name in order of their frequency as follows:

Tabes,
Paresis,
Meningo-myelitis or Erb's paralysis,
Specific transverse myelitis.

We may have any one or all these clinical entities singly or in combination before the clinical picture is finished.

In tabes we have present the vascular and pressure symptoms of meningitis or gumma, or serious organic changes in the root neurones of the spinal nerves associated with a parenchymatous degeneration of the posterior columns of the medulla giving us the classic symptoms of

Primary optic atrophy,
Lightning pains,
Gastric distress,
Argyll-Robertson pupil,
Disturbance of station—Romberg's sign,
Loss of patellar reflex,
Girdle sensation,
Ataxic gait.

In paresis we have present a true destructive meningoencephalitis. A progressive and widespread decay and destruction of the cortical neurones such as we note in the slow dementing forms.

The symptoms here of cortical irritation such as convulsive seizures, mental excitement and expansive delirium are probably manifestations of the mechanical activity and development of the spirochætes themselves. This irritative process is followed by a gradual softening, a proliferation of the glia, an atrophy of the tangential fibers and final dissolution of the ganglion cells of the cortex giving rise to the classical signs in their order as follows:

Irregularities of the pupils,
Loss of endurance,
Failure of memory,
Changes in the disposition,
Nervousness, restlessness,
Depression and inclination to tears,
Ocular-motor paralysis,
Ptosis,
Disturbances of co-ordination
Expansive delusions and final dementia.

A study of the cell count between paresis and tabes shows one element of differential diagnosis, namely, the relative pleocytosis. A cell count of not more than five lymphocytes to the c.m.m. is considered normal; above ten, suggestive of tabes and more than one hundred presumptive evidence of paresis.

In Erb's syndrome, we note a gradual development of spastic paralysis of the lower extremities with spastic gait in an individual with an antecedent history of syphilis, motor paralysis, muscle tension increased tendon reflexes, sensory disturbances and weakness of the sphincter control of the bladder; the upper extremities, the cranial nerves, the pupils and intelligence escaping involvement.

In specific transverse myelitis we encounter a complete paraplegia below the level of involvement with loss of sensation but preservation of the temperature sense in the areas affected.

Tendon reflexes abolished when the lesion is in the lumbar cord, and exaggerated when higher up in the spine. Loss of control of the bladder and rectum. Often the first symptom is the failure of the detruser action of the bladder. The limbs (lower) eventually become edematous.

Headaches in secondary syphilis is in the majority of cases due to cerebral hypertension rather than any structural degenerative changes, but where there occurs the associated symptoms of headache, insomnia and general nervousness, with or without incoordination, there is always present, positive findings in the spinal fluid.

Infrequently symptoms of cerebrospinal involvement have been known to appear coincident with the first manifestation of the secondary rash, but ordinarily the initial signs of central nervous involvement do not occur until from the seventh to the fifteenth year after the chancre.

When the base of the brain becomes involved in the syphilitic process, especially if the pons is affected, we have the five classical symptoms of

Headache located seemingly in the socket of the eye,
Difficulty of speech,
Difficulty of swallowing,
Abducens paralysis,
Hemiplegia.

Syphilis evinces a well known tendency to attack any point of least resistance. A latent lues may light up at some point of recent infection, trauma or unusual drain on the cellular activity and trophic supply of the sensitive central nervous system.

A sudden protracted nervous strain, a political campaign, prolonged anxiety, a strenuous and prolonged mental effort, alcoholism or other intoxication, venereal debauch; any one of these disturbing conditions may precipitate a hemiplegia, a tabes or a paresis in a syphilitic subject who would escape this tertiary visitation in the normal and ordinary activities of life.

Revaut has shown that in every well established syphilitic process within the central ner-

vous system, there usually exists for a protracted period what is known as a "pre-clinical stage" which may continue for months or even years before cerebrospinal degenerative changes become evident. It is in this period that active and prolonged rational treatment is most efficient and frequently curative.

It is only in this stage that we may hope to circumvent a hopeless and destructive organic lesion.

In the serum diagnosis of syphilis, especially in the late tertiary stage, it is in just these cases that we cannot place a positive reliance on the Wassermann examination of the blood.

Frequently the latent syphilitic antibodies do not inhibit hæmolysis in the blood and it is not until we examine the spinal fluid that we encounter a three plus Wassermann together with the pleocytosis and the "Phase 1" reaction of Nonne.

With the modern technique of lumbar puncture, such examinations are entirely safe and practical.

If we can institute effective anti-leutic treatment before the endarteritis has gone on to a thrombosis, we can save the vessel wall and conserve the vascular supply of the menanced nervous tissue.

It is possible to absorb a gumma, the presence of which is seriously embarrassing the function of brain or cord so that the patient entirely recovers, baring the permanent mutilation of a possible fibrous cicatrix.

As a matter of course where gross parenchymatous degeneration has already occurred or where softening or degeneration is already present, the damage to that extent is irreparable. We can salvage the nerve cell that is threatened but we cannot restore what has been destroyed.

The treatment of syphilis of the central nervous system has heretofore been very disappointing, inasmuch as the usual avenues of treatment have failed to reach the affected tissues.

Mercury and iodides *per oram* and salvarsan by the intravenous route is not in many cases efficient, due to the physiological fact of the impermeability of the choroid plexus. Thus it remains for us to attack our ancient enemy entrenched as it is beyond the reach of remedies employed through the general circulation, by actually introducing our remedy into the cerebrospinal fluid and thus reach the spirochæte through the lymph spaces of the brain and cord.

The credit for first elaborating the intraspinous method of treating syphilis is doubtless due to Swift and Ellis, of New York, who first used a defibrinated autoserum of the patient's own blood a few hours subsequent to an intravenous salvarsan.

This technique gave way to the recent salvarsanized serum method of Ogilvie who employs recently prepared salvarsan in doses of from 1/20 to ½ mg. in fresh inactivated serum from either the patient himself or other human serum, whether syphilitic or not, and introduces the dose in about ten c.c. of this serum into the lumbar spine by the gravity method. These treatments are repeated at intervals of about every two weeks as long as necessary.

I have seen a series of twelve treatments produce very remarkable results in otherwise hopelessly ataxic tabetics who refused to yield to the ordinary methods of anti-leutic treatment. Patients usually entered the hospital of the Vanderbilt Clinic at about four in the afternoon of the previous day for the preparatory treatment of mild purgation and light diet, and during the afternoon of the following day they received their subdural treatment and remained until the morning after when they went upon their way, in the vast majority of instances with no untoward effects. The worst reaction I witnessed in a large series of cases was headache, leg pains and occasional vomiting, all of which soon subsided. A slight rise in temperature occurred in a few cases, which at most was transient.

Byrnes[2] has perfected a technique by which he introduces into the spinal canal mercurialized serum in doses of about 1/50 grain of mercuric chloride dissolved in normal salt and incorporated into the inactivated fresh human serum. He claims brilliant results for his method, comparing favorably with the salvarsanized serum of Ogilvie.

It will be understood that I do not advocate the subdural route as the only rational method in the treatment of brain and cord syphilis, for many cases respond beautifully to the ordinary technique of mercury and the iodides together with intravenous salvarsan, but every one of you who has any considerable experience with lues, will encounter many cases that for some unknown reason do not improve under the approved methods usually in vogue. It is these cases, otherwise hopeless, for which I advocate vigorous intraspinal treatment.

In conclusion I would emphasize the importance to your patient's future of an early diagnosis of involvement of the central nervous system. It is simple to recognize the expansive delirium of paresis or the ataxia of tabes, but the average practitioner should be on the alert for the early signs of these conditions.

2. Jour. A. M. A., 1914, ii, 2182.

Pains in the lower extremities, if persistent, should be carefully differentiated from an ordinary sciatica, and if associated with frequent headache, should speak to us of an early possible lues affecting the spine. Numbness of the toes is suggestive as an early sign as also failure of vision beyond what is normal for the patient's years. An irregular pupil should always send us to testing the knee jerk. Mental depression that cannot be explained, particularly if accompanied by attacks of vertigo and failure of memory, should make us at once suspicious of a cerebrospinal luetic complication.

AMYOTROPHIC LATERAL SCLEROSIS*

Tom Bentley Throckmorton, B.Sc., M.D.,
Des Moines

Amyotrophic lateral sclerosis, a true system disease of the brain and cord, is essentially a disease of middle life. The noted French neurologist Charcot, in the early sixties, was the first to call attention to this disease entity. Although much has been written on the subject since the publication of Charcot's work, as yet nothing definite has been found in the way of a true etiologic factor. Chill, trauma, fright, excesses, over exertion, plumbism, all have been spoken of as possible factors in the production of this disorder, and more recently various workers have tried to establish a possible relationship between syphilis and the degenerative changes so characteristic of this disease which are to be found in the central nervous system of individuals suffering from this disorder. Even the neuropathic theory, which so nicely explains many of the enigmas now confronting neurological diagnosis, has been pushed into the foreground by Strumpell, who assumes that a congenital predisposition, in other words, a weakness of the corresponding motor apparatus present from birth, is the most important factor in the etiology.

In considering the symptomatology of this disorder, some clinicians have aptly associated or brought together the symptom groups of three distinct diseases, *ie.*, those of bulbar paralysis, those of spastic paraplegia, and those of chronic anterior poliomyelitis. In well defined cases, symptoms referable to all of these diseases are found in varying degrees and sometimes for this reason a true conception of the ailment cannot be determined until the symptomatology has sufficiently progressed to show the presence of a disease due to a combined, rather than to a single tract lesion of the motor nerve apparatus.

Usually a weakness and atrophy of the musculature of the upper extremities, or a weakness and stiffness of the lower extremities, manifests themselves early. Not uncommonly one arm or one leg is the more affected, or indeed a true hemiplegic type may occur. Since the disease affects the motor apparatus alone, pain is entirely absent, or if present is unimportant. Fibrillary twitchings of the muscles, indicative of a spinomuscular neuron involvement, may in some instances precede the muscular atrophy and form the first crass sign of the disease. These twitchings and atrophic changes sooner or later become striking clinical features. The small muscles of the hand such as form the thenar and hypothenar eminences, the interossei, and the lumbricales, not infrequently are the seat of trophic changes which are the first evidences of definite structural change, but as time goes on, and the muscles of the shoulder girdle and upper thorax become involved, the hand changes, at first perhaps considered of little moment, now assume sufficient magnitude to herald the approach of impending disaster. Hand in hand with the trophic changes, is to be noticed also motor weakness, which as time intervenes is replaced by a paralysis presenting the signs of a spastic-atrophic condition.

The condition of the lower extremities differs somewhat from that of the upper extremities, mostly perhaps by an absence of atrophy and the presence of muscular rigidity, which usually appears early. The clinical findings are those of an upper motor neuron involvement, as evidenced by increased or exaggerated tendon jerks, increased tonicity of muscles, spasticity, and sometimes the presence of a pathologic toe sign. Should the spinomuscular element of the nervous system supplying the lower extremities be the seat of pathologic changes more pronounced than those involving the corticospinal element, not only will there be an absence of such symptoms as above enumerated, but decreased or absent tendon jerks, flaccidity of muscles, atrophy, complete or partial reaction of degeneration, but never the presence of an extensor toe sign, will be the cardinal clinical findings observed on examination.

Symptoms referable to a medullary involvement, *ie.*, symptoms of bulbar paralysis, are as a rule late in onset, but in exceptional cases, such a paralysis may be the first crass sign of an organic involvement. When such is the case, the difficulty, if not the impossibility, of differentiating a beginning amyotrophic lateral sclerosis with predominate bulbar symptoms from a true progressive bulbar paralysis, at once becomes ap-

*Read before the Cass County Medical Society, April 19, 1916.

parent. In this connection it must not be forgotten, however, that K. Miura has pointed out that practically every case of bulbar palsy coming to necropsy shows not alone degenerative changes in the medullary motor nuclei, but also a varying degree of pyramidal tract involvement.

Bulbar involvement usually indicates its presence by indistinctness of speech, not infrequently savoring of a nasal "twang." Little by little this gives way to a well marked dysarthria. which in time may be replaced by anarthria. Dysphagia may also become a very troublesome factor. All of these phenomena are dependent upon a paralytic condition of the muscles of the lips, tongue, palate and jaw. Occasionally, however, as in true progressive bulbar palsy, an unusual emotional excitability develops, and causeless crying or laughing indicate a weakening of the patient's power of self-control. While any of the motor cranial nerves may become involved, it appears to be singularly rare for the eye muscles to undergo paralytic changes. Strumpell alone reports an atypical case in which there was an associated paralysis of the eye muscles.

The pathology of this condition consists, in brief, of a degenerative process which involves the motor conductive pathways. Usually the nerve cells in the anterior horns of the spinal cord and the fibers of the pyramidal tracts suffer the most. In other words, the motor neurons of the corticospinal and of the spinomuscular tracts are the seat of changes especially characteristic of this disorder. That the gray matter in the medulla may alike share in the degenerative process, is also a well established fact. It was Dejerine who first pointed out the relation of amyotrophic lateral sclerosis to the labioglossolaryngeal paralysis of Duchenne. Spiller has aptly termed the whole degenerative process as "essentially a death of the motor system and muscles."

The prognosis of this disease is exceedingly grave, since it is estimated that the average duration is from two to four years. Death usually occurs from asphyxia, inanition or from aspiration pneumonia.

With this presentment of the chief clinical factors usually found accompanying this disorder, I will now invite the attention of the Society to a consideration of a case which presents undoubted evidence of the involvement of both the corticospinal and spinomuscular elements of the nervous system, which involvement is also associated with definite degenerative changes in the medulla oblongata.

Case Report—An unmarried colored man, a porter by occupation, thirty-three years of age, was first seen in September, 1915, when he applied for medical aid at the dispensary of the Iowa Methodist Hospital, where he was referred to me through the kindness of Dr. John H. Peck. At that time the man's chief complaint was paralysis of the arms and hands, a condition which had gradually come on during the previous nine or twelve months.

His family history is negative except for some historical facts. His parents, at one time both slaves, are living and well, with the exception that his father is said to be a sufferer from "rheumatism." He has four brothers, living and well. One brother died of pneumonia and a sister died at the age of thirty years of cardiac disease. His paternal great grandfather was a white man, as was also his maternal great grandfather. On his mother's side, both of his grandparents lived to a ripe old age. Apparently nothing is known about the lives of his paternal grandparents. No history of nervous disorders was obtained.

The personal history seems to be without apparent significance. At seventeen years of age he had a Neisserian infection, without complications. A year later, he had the small-pox, also a venereal wart. He denies lues. He attended the public schools, and went as far as the third year in high school work. He took an active part in the various games and sports, and was quite skillful in the art of baseball.

His habits, however, were not of the best. Cigarettes were used excessively, and his employment as porter in saloon work readily gave him access to alcohol. It was not unusual for him to nicely handle from fifteen to thirty drinks of whiskey in a day. He was also a pronounced libertine. At the present time, he states that his appetite is good, his bowels move daily, his kidneys are active, and he sleeps well.

About a year and a half ago while trying to lay some carpet, this man found that he was unable to push the point of a tack into the floor with his thumb. The weakness which was at first confined to the right hand soon extended to other parts of the arm, and in time the left hand also became similarly involved. Little by little the muscles of the upper extremities became weaker and in time they seemed to be "drying up" and useless. There was no disturbance of sensation, but early he noticed twitchings in the muscles of the hands, at the web of the thumbs, and about the angle of the mouth on the right side.

The involvement of the lower extremities seemed to be almost synchronous with that of the upper extremities. The rate of disease progress, however, was not as rapid in the legs as it was in the arms. While some muscular weakness was noticeable, yet spasticity played the more important role as evidenced by some awkwardness in gait, the constant tendency to trip owing to the right toe catching on objects, and the wearing away of the toes of the shoes at their inner soles.

Thickness of speech gradually came on and was attributed early to the use of alcohol, but later when there was inability to longer use the tongue and

lips in making a shrill whistle, he decided that the conditions were due, not so much to the abuse of whiskey, as to a weakness of muscles, now becoming generally involved. While no regurgitation of liquids through the nostrils had as yet taken place, some slight difficulty in the swallowing of dry food had been encountered.

At the time of his first examination the following elinical facts were noted: Station is good. There is a slight spasticity of gait. The right pupil is perhaps a little smaller than the left one, but both pupils respond to light, and in accommodation and convergence. Color sense is good, ocular movements are free and equal, and there is an absence of nystagmus and hemianopsia. The optic disks and retinæ are normal. The masseter groups contract fairly firmly, and the facial muscles likewise seem fairly good. Hearing is retained and equally so. The soft palate contracts but may be a little weak on the right side. Tongue protrudes in the median line, the tip, at first tapered, soon broadens, and a ripple of fine contractions, readily discernible, shows that trophic changes have already taken place in the organ.

The atrophic changes in the musculature of the upper extremities and shoulder girdle are striking. Especially are the muscles of the hands wasted and flabby. Fibrillary twitchings are distinctly noticeable. There is no ataxia of the arms. The grip is very poor in either hand. The tendon jerks of the arms are readily obtained and are plus on the left side.

The leg muscles are fairly firm. The knee and ankle jerks are very active, but more so on the left side. Patellar and ankle clonus can be obtained. There is an absence of the flexor plantar reflex, and extension of the toes is negative by the Babinski, Oppenheim, Chaddock, Gordon and percussion methods. The cremasteric and abdominal reflexes are very active.

Throughout the examination there was a marked tendency to laugh at trifling remarks, showing that the emotional sphere has been disturbed. The speech is characteristic of a bulbar involvement.

The electrical changes are characteristic in that muscles showing little or no atrophic changes, give good faradic response, whereas those muscles showing marked atrophy, respond quickly to galvanism and but little, if at all, to faradism.

The spinal fluid is negative both to the Wassermann reaction and for the presence of a pleocytosis. Urine and blood examinations are negative.

Differential Diagnosis—With this presentation, though necessarily brief, of the chief clinical factors found in a typical case of amyotrophic lateral sclerosis, I will now invite your attention to a consideration of the differential diagnosis. This consideration necessarily dwells largely on a review of three distinct clinical entities, *ie.*, bulbar paralysis, chronic anterior poliomyelitis, and spastic paraplegia.

Progressive bulbar paralysis of Duchenne, sometimes spoken of as polioencephalitis inferior of Wernicke, is a disease naturally limited to the motor nuclei and neurons of cranial nerves arising in the medulla oblongata. The involvement of the ninth, tenth, eleventh and twelfth pairs of cranial nerves is followed by a train of symptoms which in the main are evidenced by changes in the velum palati, pharynx, larynx, sometimes cardiac phenomena, weakness of the sternomastoid and of the upper and lower portions of the trapezii muscles, weakness of tongue movements and atrophy of the musculature of this organ. Should the motor portions of the fifth and seventh pairs of nerves be included also in the degenerative process (and it is held by some writers that generally these nerves are sooner or later affected), weakness of the masseter groups, loss of diduction of the mandible, and paralysis of the facial muscles are sooner or later to be found. Affection of speech, which naturally follows from muscular weakness of the lips and tongue and sometimes from a recurrent laryngeal nerve paralysis may, at first, in the absence of other symptoms, be suggestive either of a beginning paresis or of a multiple sclerosis. In paresis, however, the tremor of the lips is usually prearticulate, there is not infrequently a history of a previous luetic infection, the blood serum and spinal fluid show characteristic changes, signs of an organic nerve involvement are sooner or later present, all of which phenomena are associated with distinct mental changes. Multiple sclerosis, which may simulate any nervous disorder known, is usually recognized by the earlier appearance of the disease and the presence of such cardinal symptoms as primary optic atrophy, nystagmus and intention tremor.

Chronic anterior poliomyelitis, also spoken of by some writers as progressive muscular atrophy of spinal origin, belongs to that group of nervous disorders known as myelopathies. Unlike amyotrophic lateral sclerosis, we find the course of this disease is slow but progressive, is not as a rule attended by bulbar symptoms, the deep reflexes are diminished or lost and the electrical changes are indicative of a single (spinomuscular) rather than of a combined cord lesion. The changes most indicative of a poliomyelitis are usually found in the leg muscles, or sometimes about the shoulder girdle, whereas it will be recalled, in amyotrophic lateral sclerosis the muscular changes are as a rule noticed first in the small muscles of the hand.

While it is true that there may be a local atrophy of muscles, usually of the shoulder girdle and upper extremities in syringomyelia, yet

the characteristic dissociation of cutaneous sensations and the tendency to the formation of arthropathic changes are usually sufficient to enable one to properly differentiate the two conditions now under consideration.

Cervical hypertrophic pachymeningitis may cause atrophy of the hand muscles, but here the presence of associated sensory disturbances, the localization of changes mostly confined to the cervical distribution, and the history of a period of pain should be sufficient to properly diagnosticate this disease entity.

In spastic paraplegia, the presence of muscular rigidity, increased tendon jerks, patellar and ankle clonus, and extensor toe phenomena, all of which are unassociated with muscular atrophy, (except that occurring from disuse) are cardinal clinical findings indicative of a lateral tract involvement alone.

Muscular atrophy of the arms and legs of neuritic origin may be suggestive of amyotrophic lateral sclerosis, but here the rapid onset, the history of contact with some chemical substance, like alcohol or lead, exposure to cold or wet, the presence of pain, tenderness on pressure over the nerve trunks, would indicate at once a multiple neuritis.

If the myopathies must be considered, it is only necessary to recall that the clinical findings are those of conditions due to primary changes in muscular structure rather than those resulting from nerve involvement.

407 Equitable Building.

REED'S BACILLUS EPILEPTICUS

J. B. ROGERS, M.D., Independence

Assistant Physician and Pathologist, Independence State Hospital, Independence, Iowa

Recently Reed and Hyatt[1], Terhune[2] and others reported finding an organism in the blood stream, intestinal mucosa and fæces of epileptics which they thought might bear an etiologic role in the production of idiopathic epilepsy.

Reed and Hyatt report isolating this organism from a large number of epileptics and producing the disease in rabbits by intravenous inoculations. Terhune reports similar findings in epileptics and that he was successful in producing convulsions in cats but was unable to produce the disease in rabbits. Wheery and Oliver[3], Caro and Thom[4], and others soon followed with negative reports of finding this organism in the blood stream of epileptics.

The subject being one of interest, led me to attempt to corroborate the work of Reed and Hyatt, and Terhune. After repeated unsuccessful attempts to isolate the organism from the blood of epileptics, I obtained cultures of the organism through the courtesy of Reed and Terhune. The organism has the following characteristics: It is similar in morphology to the b-subtilis; culturally it grows in ordinary media at room temperature or as high as 110 degrees Fahrenheit; it will stand a 5 per cent. solution of phenol, ten hours; a 95 per cent. solution of alcohol or ether, or a 1/1000 bichloride of mercury solution one-half hour; a 1 per cent. solution of nitric or acetic acid ten minutes; and will grow after boiling for fifteen minutes or after steaming for two hours in the Arnold sterilizer.

ANIMAL INOCULATIONS

Using Reed and Hyatt's strain thirteen Belgian hares were given intravenous inoculations, as follows:

Group One—Five were given by injections one agar slant saline emulsion, each of which was followed in one week by three agar slant saline emulsions.

Group Two—Five were given by injections one saline agar slant emulsion each of which was repeated in one week.

Group Three—Three were given by injections only one agar slant saline emulsion eacn.

The results of the inoculations were as follows:

Of the first group, two hares died from pulmonary embolism at eighteen and thirty hours after the last injection, one died from cerebral embolism one-half hour after the last injection and the remaining two survived the massive doses and suffered no particular inconvenience.

Of the second and third groups, none developed convulsions or showed any noticeable reaction following the injections.

One dog was given an intravenous injection of three agar slant saline emulsions, which was repeated in one week. It showed no sign of convulsions.

Five guinea pigs were given one intraperitoneal injection of one agar slant saline emulsion each without any harmful results.

I took a subcutaneous injection of a large number of the organism and also drank some of the saline emulsion, without any effect except that there was a slight local reaction at the point of inoculation.

1. Reed, Charles, A. L.: The Bacillus Epilepticus, The Journal A. M. A., May 20, 1916, p. 1607.
2. Terhune, W. B.: A Bacillus Isolated from Epileptics, The Journal A. M. A., October 14, 1916, p. 1155.
3. Wheery, W. B., and Oliver, W. W.: Blood Cultures in Epilepsy, The Journal A. M. A., October 7, 1916, p. 1087.
4. Caro, H., and Thom, D. A.: A Bacteriologic Study of the Blood of Seventy Epileptics with Special Reference to the Bacillus Epilepticus of Reed, The Journal A. M. A., October 7, 1916, p. 1088.

Using Terhune's organism ten cats were given intravenous inoculations. Of these, five received two injections one week apart of one agar slant saline emulsion and five only one injection of one agar slant saline emulsion. Three of the cats in the first group developed convulsions similar to those ordinarily seen in house cats. None of the cats in the second group showed symptoms of convulsions.

I have been able to isolate this organism from the intestinal tract of four non-epileptic patients at autopsy, also from the fæces of several normal individuals.

Summary and Conclusions

The organism is a spore forming bacillus which is very resistive to chemicals and heat and when introduced into a laboratory makes contamination of other cultures probable. It is innoxious to rabbits, guenia pigs, cats, dogs and human beings. It is found in the intestinal mucosa and fæces of all normal individuals.

I desire to thank Dr. F. R. Nice who assisted me in making the animal inoculations.

STANDARDIZATION, PREPARATION OF PATIENT, OPERATION AND POST-OPERATIVE TREATMENT FOR LESSENING SEPSIS AND SHOCK IN TONSILLECTOMY*

Henry Glover Langworthy, M.D., Dubuque

The purpose of this paper is to briefly present the subject in almost skeleton outline with the idea of supplementing the same by prepared discussions aimed to bring out the best possible expression of opinion. The matter of attempted standardization of the tonsil operation from start to finish is important, first, because it certainly seems feasible and second for the reason that even yet one is able to see in some of the best operating rooms of the country, almost the extremes of very good and very indifferent work.

That we have logical reason for our consideration is true enough because we have grown to learn that tonsillectomy is not an easy or minor operation but is a set hospital operation, if under a general anesthetic, to be surrounded with all the necessary refinements which it demands. It is beyond any dispute that a well done tonsil operation for real benefit to humanity is to be ranked second to none in benefiting the patient, promoting longevity and general freedom from disease.

*Read before the Sixty-Fifth Annual Session of the Iowa State Medical Society, May 10, 11, 12, 1916, Davenport, Section Ophthalmology, Otology, and Rhino-Laryngology.

Preparation of Patient—In taking up very briefly this division of preparation of patient, I would subserve theories to known practical results of the past by restating merely what we all realize, namely that we must have routinely a better and fuller knowledge of our patient's general condition than formerly. That a whole lot of unnecessary examination and preparation of patient in obviously good health is not necessary, goes without saying, but the patient should be put through at least some kind of a routine office physical examination, as we have no right to rely too much on what we might otherwise term "horse sense." There is certainly no excuse for ignorance concerning a simple history of important facts or unusual idiosyncrasis, some data of heart, urine and temperature and where necessary, a record of the blood-pressure with often a rough test for acidosis as noted by the employment of litmus paper on the tongue in testing the saliva. While excessive acidity should be combated under special circumstances, the matter of acidosis like a good many things in medicine can be overdone, particularly until it has been through the test of time.

Our sole aim one might well say in these cases should be to carry the patient through the ordeal as a whole with the minimum amount of wear and tear, without undue upset and fright or preliminary weakening and careful avoidance of all factors which might have a bearing toward producing excessive post-operative nausea, vomiting or other untoward results. It would seem that the regular hospital preparation of moderately light supper, bath, clean night clothes, castor oil the night before, cleansing enema in the morning and no food for breakfast, meets all the requirements of the average case where a general anesthetic is required and in the best possible way. Morphin and atropin is not necessary on the average although it is often best to use it preliminary to operation in some individual cases where there is clear-cut reasoning for it.

Choice of a General Anesthesia—General Anesthesia—While the choice of an anesthetic has occasioned much discussion, at the present time it has of its own accord sifted itself down to the use of ether and ether vapor supplemented very frequently by the preliminary administration of nitrous oxide to slide the patient under the ether. Nitrous oxide as yet does not take the place of ether vapor in nose or throat operating of any length, but supplements its administration in various ways, and for that reason should be used more frequently in our work, and will be so used just as soon as hospital authorities understand that a gas, oxygen and ether vapor machine is a

community apparatus to be purchased for the operating room by the hospital and not by the individual doctor.

Local Anesthesia—In operations under local anesthesia, a light meal, dulling of the sensory nervous system by the use of sedatives, blocking of the nerves with novocain and closing off small blood-vessels with adrenalin chloride is necessary in every rather difficult case in order to be able to comfortably perform a thorough and complete tonsil enucleation operation. Certainly no proper work can be done on a squirming or bleeding patient. Preliminary preparation is everything for success in operating in the throat or nose under a local anesthetic and if this were carefully done we would no doubt be less inclined to put most patients under a general anesthetic. Cocain hydrochlorate in 10 per cent. solution in small area applications is often necessary in order to inject a tonsil with novocain without preliminary pain and gagging. Here again, morphin derivatives are best dispensed with except for some clear and special indication. Plenty of time for preparation of the local operative fields is the key note in preventing trouble for the patient and the operator.

The Tonsil Operation—The matter of standardization of the tonsil operation itself is based on the premise that the matter has been worked out sufficiently to date so that the character of the work can be standardized the same as with many other surgical procedures. This certainly was not possible a few years ago and even yet some refinements are still necessary.

There is perhaps no other single operation on the body which takes more preliminary study, observation in operative clinics of the work of other operators and the spending of considerable money for instruments, gas, ether vapor and suction machines, electric head mirrors and other special instruments and apparatus all aimed to do fairly rapid and perfect work and patterned to avoid the slightest chance of injury to the delicate tonsil pillars or any disturbance of balance of the soft palate and uvula which is still occasionally seen even in the hands of our "master" workmen.

With all this in mind it is no wonder that rhinologists justly resent any general surgeon or set of general medical men thinking that it does not take a great deal of special training in order to do a standard tonsil operation such as you and I would want done, particularly if we had deeply buried and badly adherent tonsils and thought pretty well of our own pharyngeal structures.

The tonsil operation we may say has sifted itself down at present to two principal methods of attack.

1. Dissection of the tonsil (with exception of all but a small part of its capsular attachment behind) under good illumination with the removal of the entire tonsil in its capsule by the use of the wire snare.

2. The more rapid enucleation in capsule by the use of the guillotine as best outlined by Sluder.

Both of these methods accomplish the purpose. Each one has certain points of advantage over the other in selected cases and neither one should be employed to the total exclusion of the other. A few poor results are occasionally noted following both in the difficult cases due to our lack of skill in perfectly applying the principles which we had hoped to carry out. The fault, if fault there be, therefore, is failing to exactly fit our instrument to the case and in losing track for a moment of just what our instrument may be doing when out of sight.

The Adenoid Operation—The best removal of adenoid masses in the vault of the pharynx completely and without damaging mucuous lining or underlying bone, thus delaying healing and causing crusting, can also well be discussed at this time. It is doubtful however whether we dare believe that this operation is fully standardized as yet. That they should be removed thoroughly and clean without leaving shreds or masses in the vault, goes without saying. It is impossible to remove adenoids well with the patient half out of the anesthetic or with the tonsil or other sites bleeding profusely. Direct inspection by palate elevation and removal is the thing to be desired in adenoid operations, but this does not seem entirely practicable in every case, at least with our present instruments, therefore the use of the adenotome, adenoid curette with sharp edge, scissors under some circumstances, etc., all have a place and do the work well in skillful hands. After the use of every one of them, however, as the region is largely out of our vision, we are not positive that we have finished without feeling with the finger for remaining masses or films and these are then usually removed further by finger currettement or instruments.

Post-Operative Treatment for Lessening Sepsis and Shock—What one can do to promote quick recovery without undue shock and to lessen any tendency to nasty post-operative septic fever, are important queries grouping themselves under standardization of the tonsil operation. The matter of shock however is one over which we have only partial control. The resistance of the pa-

tient, virulence of any infection either before, during or immediately following the operation, and avoidance of too highly concentrated and profound anesthesia, will do much to eradicate these features, but more light is needed along some of these lines. That sepsis can be minimized, however, by a beautiful and clean cut operation, goes without saying, but neither you nor I can state that we positively know the best additional line of treatment beyond that fact. Many things have been tried but do not always answer in every instance. This much may be said, however, that surgical cleanliness and cleanliness in general, stoppage of all active bleeding vessels while on the operating table, and the application of tincture of iodine to the cut surface after the operation, are worth the most Postoperative clearing of the nasal passages by a warm nasal douching three times daily and cleansing of the throat by spraying or gargling and the further application of tincture of iodine, if the patient will stand it, can be carried out with benefit in every case. I would leave the further discussion of this phase, however, to those who are to follow.

In closing the foregoing outline, we may conclude that the matter of time is not the important element in tonsillectomy but a thorough and skillful standardized operation with instruments suitable to the individual case combined with all known things, medical and surgical, which give the least wear and tear on the patient. The specialist truly should so perfect himself by constant watchfulness of his specialty, that the work of the rhinologist will rightfully become the "court of last resort" for this class of operative work.

Discussion

Dr. F. W. Dean, Council Bluffs—I think as a rule all the preparation necessary for the operation of tonsillectomy is as the Doctor has outlined, a clearing out, rest over night and no breakfast. If, however, the patient does not appear well and is carrying a temperature, a thorough examination is imperative. The fact that the patient is carrying a temperature does not necessarily contra-indicate the operation. The temperature may be caused by the septic tonsils and their removal is the one thing that will bring about a normal condition. As to what anesthetic should be used, while we use ether we still use chloroform quite largely in tonsil operations. Chloroform is such a satisfactory anesthetic. There is so little mucous, and if properly administered, there is a great temptation to use it in short operations. I do not think that morphin or any such drug should be administered before an anesthetic is given. I do not believe that any of the general anesthetics can be properly given when its action is masked by a previously administered hypodermic of morphin or the twilight sleep mixture.

Dr. L. W. Dean, Iowa City—The question of acidosis in tonsil and adenoid operations on infants and young children is in my judgment one of greatest importance. Recently in Boston a child received the very best of care before the operation and the very best of care following the operation, and died of acidosis. The operation was the removal of adenoids. Only thirty drops of chloroform was administered and the operation lasted but a very few minutes. In Detroit recently a patient died of acidosis following a tonsil and adenoid operation. In Chicago a number of cases have been reported, none of which were fatal however. In my judgment there have been reported in our country during the last year, more deaths from acidosis following this operation than from any other one thing. In our service we have had two marked cases of acidosis. One case developed on the second day following the operation, continuous projectile vomiting without fever and without the child being apparently ill. The tonsil wounds were clean. There was a marked acetonuria. The trouble was easily eradicated by the use of large doses of sodium bicarbonate. A second case was one where on the second day following the operation the child became comatose. This child had a very marked acid urine. The use of large doses of sodium bicarbonate relieved the comatose condition but the acetonuria persisted. This child developed two days after the operation, scarlet fever. The operation evidently had been performed during the period of incubation; so there may be a question as to what was in this case responsible for the acidosis. The acidosis persisted and the child died from it in about fourteen days following the operation. The fact that acidosis is not at this time perfectly understood, is so much the more reason why we should give it our attention. In connection with our operative procedures upon children, we are going to hear much of it in the near future. Unfortunately at this time there is no way of determining, without expert assistance, the presence of an acidosis. Acidosis is a condition where the alkalinity of the blood is decreased. If there is a decrease in the alkalinity of the blood which would be equal to the difference in the alkalinity of ordinary tap water and distilled water, the individual could not live. If the acidosis be due to a disturbance of fat metabolism, its presence will be accompanied by acetone, aceto-acetic acid, or B. oxybutyric acid in the urine. The presence of acetone, or rather, these acids in the urine, however, does not indicate acidosis, as the blood may be of normal alkalinity. There are numerous other conditions, however, which produce acidosis besides the disturbance of fat metabolism, and which are not necessarily accompanied by the presence of acetone, acetic acid or B. oxybutyric acid. Such a condition can be recognized only by a determination of carbon dioxide in the alveolar air, the alkalinity of the blood, or some

other process, the carrying out of which requires the services of an expert. The latter condition is more common in infants under one year of age. The disturbance of fat metabolism is more common in infants more than one year of age. The reasons for the production of acidosis in our tonsil and adenoid operations, are not definitely understood. Perhaps our starvation of the patient in preparation for the operation has much to do with it. Probably the toxemia from tonsils and adenoids has something to do with it. Of the anesthetics, chloroform is most likely to produce acidosis, next to that ether, and lastly gas. The treatment for acidosis may be prophylactic. In preparing for the operation the child should not be starved. Glucose has been given to prevent acidosis. If it is necessary to give a sugar, and it is given by mouth, cane sugar may just as well be given as glucose. Sodium bicarbonate by mouth or per rectum is a measure to prevent acidosis. The administration of sodium bicarbonate by mouth or per rectum or intravenously is a treatment for acidosis. If there is an acetonuria, glucose should be given. If the alkali is to be given intravenously, after the sodium bicarbonate solution has been sterilized by boiling, carbon dioxide gas should be passed through the solution in order to reconvert any sodium carbonate which has been produced by the boiling into sodium bicarbonate, the sodium carbonate being irritating.

Dr. F. G. Murphy, Mason City—It is now a well known fact that surgical operations are frequently followed by a condition of more or less extreme acidosis. Important factors in the production of this condition are a general anesthesia, prolonged starvation or insufficient feeding before operations, and often a suppurative process, especially if of high grade. A mild acidosis existing at the time of operation can be readily transformed into a severe one by subjecting the patient to a general anesthesia. Of the general anesthetic agents, chloroform is by far the most powerful in this respect, so powerful in fact that its use should be entirely abandoned. A large part of the work which has established these points has been done by Dr. E. A. Graham, who is now at Mason City. He was able to show for example, that in the case of chloroform poisoning, not only the usual clinical symptoms of so-called "acidosis" but also the anatomical changes in the tissues, such as edema, fat infiltration, necrosis and hemorrhage production are the results chiefly of the liberation of hydrochloric acid from the breakdown of the chloroform molecule in the body. In the case of other general anesthetic agents, other acids are responsible. This work has definitely established the fact that during a general anesthesia the acid production may be high. In other work he has also shown the great importance of keeping the body well supplied with carbohydrate in order to avoid the extreme toxic effects of a general anesthesia. This was illustrated nicely by the fact that newly born pups which are much more resistant to the poisonous effects of chloroform than adults, owe their immunity to their rich supply of glycogen. If glycogen is removed (as for instance, by carbohydrate starvation) a pup becomes just as suspectible as an adult dog. Conversely if an adult dog is fed liberally on carbohydrate, it becomes just as immune as is the newly-born pup. European laryngologists have predicted that the American surgeons would come to grief in their tonsillectomies, and they have. I anticipate the time will not be long when the method of tonsil drainage under local anesthesia will be established where the patient has everything to gain and nothing to lose when an operation is necessary to relieve a tonsillar infection.

Dr. H. G. Langworthy—In closing I would say that any operation which leaves an imperfectly balanced palate, that is drawn down in a deformed manner, either to one side or anteriorly or posteriorly for that matter, due to injury to the pillars and scar contraction, is a bad operation even though there may seem to be no great harm otherwise resulting. The question is: Are we always able to overcome the chance of this at the present time? How many can truly say that within the next six months they may not see a poor cosmetic result following their own work or perhaps a fatal hemorrhage, death from acidosis or some other untoward result, especially when there is marked departure from conventional operative lines! Would any one also attempt to say that irreparable injury may not result from the use of a sharp cutting instrument which passes out of our sight in the throat even if only for the briefest period? These are some of the things for us to think about in considering this important subject. The "personal equation" in all this, however, is the weighty one constituting much of the margin of safety and the one which will always exist and because of this difference in the "personal equation" of operators I have included for general use only the two types of really safe or standard operations from among the very many which might be mentioned.

THE ACUTE ABDOMINAL CRISIS

K. L. JOHNSTON, M.D., AND
E. D. MCCLEAN, M.D., Oskaloosa

Some years ago Kanavel, of Chicago, wrote an article on this subject; in which he pled for a more careful observation of the acute abdominal crisis. The authors, being impressed by the wide divergence of opinion as to when an abdomen is truly surgical, feel that by adding their ideas of a quick way to consider the various possibilities, which may be present, may add their bit towards settling this question in the local practitioner's mind. Some one has said "That the mortality of ruptured gastric ulcer is not so much dependent upon the operator's skill, as upon the keenness of the general practitioner's diagnostic sense in early recognizing this condition and insisting

the surgeon be called. Likewise it is our belief that should the conditions, about to be set forth, be carefully considered, many of the cases now carrying operative scars would never have the same. It is not our purpose to attempt to add new startling facts on abdominal diagnosis, but to set forth systematically numerous known but widely distributed ones."

1. *The Appendix*—How many errors have been committed in thy name will never be known, but the great tendency to say appendicitis when pain in the lower abdomen is present, is known to all. Especial emphasis is to be put on Murphy's sequence of pain, vomiting or nausea, rigidity, not voluntary but real, fever and leukocytosis. The tendency is not so much to overlook the appendix, but to mistake the other conditions for it. We would also like to add our plea against the ever too frequent operation for chronic appendicitis, forgetting the commonness of cecal tenderness in chronic constipation. It has been our experience that the great majority of chronic appendices are accompanied by moderate leukocytosis, a condition that is not a part of the constipation syndrome.

2. *The Gall-Bladder and Ducts*—The classical history of right hypochondriac colic, with slight, if any fever, in the stone cases, vomiting often bile stained, and acute tenderness over the gall-bladder with a moderate leukocyte increase, is commonly seen. Rigidity, unless empyema of the gall-bladder occurs, is more voluntary than real. The five F's, namely female, fair, family, fat, and forty, obtain in a striking number of cases. Murphy's distinction, that in gall-stone cases, where jaundice occurs, the pain precedes the jaundice while in acute catarrhal jaundice the converse is true, is a very valuable fact.

3. *Salpingitis*—Acute pain in the lower abdomen, usually bilateral, when single, more often on the left, with moderate fever and leukocytosis, occurring in a woman with a leucorrheal discharge, in which the organisms can usually be found, if gonorrheal, coupled with an extremely tender mass which is connected with the uterus, usually bilateral, will warrant, as a rule, the above diagnosis.

4. *Ruptured Ulcer* (Gastric or Duodenal)—In no abdominal crisis will the careful considering of the past history yield so much of value. The history obtained of chronic "dyspepsia," or known ulcer, of some standing, is nearly always a valuable lead. The onset is sudden, the epigastric pain sharp, excruciating, and immediately prostrating. Vomiting in our cases has not occurred, but nausea is quite common after the preliminary shock is over. Rigidity over the whole epigastrium is early and extreme. The temperature is not elevated until peritonitis begins, while subnormal temperature is common during the shock, immediately following rupture. Obliterated liver dullness has occurred in two of four cases. Leukocytosis occurs early. Morphin, if given early, will so completely mask symptoms that unless the gravity of real rigidity is appreciated, the diagnosis may easily be overlooked. In no abdominal condition is time of more value. Early,—immediate—operation may be life saving, procrastination is death. The slow leak, from a small perforation, is supposed to be of much less danger, but it is our conviction that one of these is a medical curiosity, not a thing to be considered.

5. *Renal or Ureteral Stone*—All are familiar with the classical symptoms of pain, originating near the kidney and being referred down the course of the ureter, to the thigh or testicle, frequent desire to urinate, hematuria, and possible chills. The average case of kidney stone presents no such text-book picture. The pain is the fairly constant symptom, with the above location. The usual kidney hemorrhage is one to be appreciated with tests for occult blood, rather than the eye. Catheterization should always be practiced in obtaining the specimen from the female. The absence of rigidity, and usually of fever, are worthy of note. Cystoscopy, showing absence of urine from one ureteral mouth, or if any comes, small amounts and possibly bloody, and the demonstration of partial or total obstruction to the ureteral catheter, particularly if a shadow can be shown, by x-ray plates, to lie along the course of the ureteral catheter, will practically clinch the diagnosis. I have never seen a kidney stone in which extreme tenderness, on fistic percussion, over the kidney, was not present.

6. *Dietl's Crisis*—The classical evidence of palpable kidney tumor, disappearing upon passing a large quantity of urine; sharp abdominal pain, usually in the kidney region, of cramp like character; absence of fever; absence of real rigidity; history of previous attacks; and absence of leukocytosis, will make the diagnosis, but these cases are seen so rarely that they are worth no more than scant consideration. We know several men, past middle age, doing surgery all their professional lives, who have never seen a case.

7. *Ectopic Pregnancy*—All cases considered, we believe the diagnosis in this condition is not made oftener than 60 per cent., ante-operation. We have often heard men, doing a reasonable amount of surgery, tell of their surprise at open-

ing an abdomen to find it filled with the bloody fluid, so characteristic of ectopic rupture. It has been our good fortune, to see about one dozen cases, and in all of them the diagnosis was apparent if the condition were thought of. Sudden pain in the lower abdomen, in a woman, during her first three months of pregnancy, followed by fainting, subnormal temperature, rapid pulse, pallid countenance, and all the other evidence of severe internal hemorrhage, makes the diagnosis extremely probable. Additional weight is added, if a soft mass can be felt in either vaginal fornix, and if during her pregnancy, slight irregular "menstruation," coupled with a feeling that something is wrong, has occurred. The popular idea that following the rupture, death will occur immediately, if operation is not done at once, seems to be somewhat at fault. Ours is not a plea for prolonged delay, only for temporary delay, long enough to supply the body with some intravenous saline solution, to take the place of the lost blood. It has not been our experience that dullness in the flanks, occurs early. With blood, the free fluid, a rather large amount seems to be necessary to give the finding.

8. *Intestinal Obstruction*—Every practitioner is familiar with the classical triad pain, colicky cramp like; obstipation; and vomiting, usually becoming fecal. The typical advanced case of ileus, where the obstruction is low down, and the blocking of some duration, offers little diagnostic difficulty. The high jejunal obstruction offers more, due to the frequent occurrence of one or more bowel movements, and the absence of real fecal vomiting, and the absence of the distention and borborygmus, so common when the low ileum is obstructed. The differentiation between true mechanical and paralytic ileus has long been a stumbling block to us all. A point worthy of mention is the following of paralytic ileus, upon some previous pathology; which has induced a peritonitis, either infective or due to a condition like twisted cyst pedicles, or upon excessive gut handling, at previous operation. The stormy mechanical blocking, with its certain progressive and prolonged vomiting, do not obtain so markedly in the paralytic type. It must be remembered that gastric dilatation can occur along with paralytic bowel distention, and that the gastric secretion in these cases have been confused with fecal material, but the relief given by gastric lavage, is a valuable point. Intussusception is often overlooked, because of the inability of obtaining a history from the young patient. The sausage shaped mass is not so common as many of the books lead one to believe. Rectal palpation often discovers blood which has not been before in evidence. Suggestion of the ileus triad coupled with blood in the rectum or stool is strongly suggestive of this condition.

9. *Plumbism*—Another condition in which past history, as well as occupation, is very valuable. The surprising number of trades in which some form of lead is used, will be noted on investigation. Simple intestinal colic, lack of fever, normal leukocyte count, absence of abdominal rigidity, coupled with other evidence of lead intoxication, such as lead gum line, peripheral neuritis, anemia, basilar degeneration of the red corpuscles, headaches and past colics, any of which may occur, will readily shed light as to the condition. It is very doubtful if plumbism with colic can occur without some other readily appreciated sign of the condition.

10. *Hemorrhagic Pancreatitis*—The comparative rarity of this disease, coupled with the difficulty of diagnosis, makes this more or less of a text-book disease. Worthy of mention are the sudden excruciating epigastric pain, marked early prostration, rigidity, absence of free abdominal fluid, persistence of liver dullness, negative past history are suggestive. The early appearance of small amounts of sugar, in catheterized urine, made the tentative diagnosis possible in one case whose other findings were those of an acute epigastric crisis of unknown origin. This case proved to be one of hemorrhagic pancreatitis at operation.

11. *Pyelitis*—The diagnosis is commonly confused with an atypical case of appendicitis when the pyelitis is right sided. Chills, septic fever curve, and pus "showers," in catheterized urine, and extreme kidney tenderness, upon fistic percussion, may if appreciated, save operative embarrassment.

12. *Seminal Vesiculitis*—Often the acute surgical abdomen is similated by acute vesicles. Inquiry as to an existing gonorrhea, or the discovery of a tender vesicle, by rectal examination, or the presence in the scrotum of an enlarged epididymis, will furnish the clue as to the condition.

13. *Referred Pain*—All surgeons who have operated a number of years, will confess to once or more opening an abdomen, to find nothing, and later discovering the cause to be one of referred pain. It is our belief that all cases, before operation, should be examined for Pott's disease, pneumonia, diaphragmatic pleurisy, and tabes dorsalis, the latter especially, because of the great resemblance of gastric crisis to a true surgical abdomen.

14. *Acute Gastritis*—So often diagnosticated and so seldom present. The diagnosis can hardly stand, unless a clear history of the recent ingestion of some material capable of causing the same, can be obtained. The pathology of the gall-bladder, pancreas, and perigastric region in general, is the usual cause for the acute gastritis mistake. The lack of abdominal rigidity, lack of leukocytosis, history of ingestion of a possible causative factor, usual absence of real systemic infection findings, are some of the salient points in finding the true condition when present.

15. *Rarer Conditions*—

a. Mesenteric thrombosis.
b. Twisted ovarian cyst pedicle.
c. Strangulated testicle, especially when undescended.
d. Ruptured gall-bladder, following empyema or trauma.
e. Abdominal angina.
f. Pylephlebitis, following previous pathology.
g. Ruptured abdominal aneurysm.
h. Ruptured typhoid or tuberculous ulcer.

All of the above are mentioned for completeness sake, and are all rather rare, but should be known and considered in the advent of any doubt as to the pathology present. All but abdominal angina are surgical diseases, hence the importance of diagnosis.

Attempting to consider the abdominal crisis possibilities in a systematic manner, has often been of great aid to us, and we offer this paper in the hope that it will be of some help to the general profession in more fully considering the responsibility resting on the doctor's head when he first meets with a case of abdominal crisis.

McINTIRE PRIZE*

Last year Dr. Charles McIntire resigned the secretaryship of the American Academy of Medicine after twenty-five years of faithful service. In appreciative commemoration the American Academy of Medicine decided to raise a fund, the income of which should be expended in accordance with Dr. McIntire's suggestions. As a consequence the Academy now announces two prize offers, the prizes to be awarded at the annual meetings for 1918 and 1921, respectively.

The subject for 1918 is "The Principles Governing the Physician's Compensation in the Various Forms of Social Insurance." The members of the committee to decide the relative value of the essays awarding this prize are—Dr. John L. Heffron, Dean of the College of Medicine, Syracuse University; Dr. Reuben Peterson, Professor of Obstetrics and Diseases of Women, University of Michigan, and Dr. John Staige Davis, Professor of Pediatrics and Practice of Medicine, University of Virginia.

The subject for 1921 is "What Effect Has Child Labor on the Growth of the Body?" The members of the committee to award this prize are—Dr. Thomas S. Arbuthnot, Dean of the Medical School of the University of Pittsburgh; Dr. Winfield Scott Hall, Professor of Physiology, Northwestern University, and Dr. James C. Wilson, Emeritus Professor, Practice of Medicine and of Clinical Medicine, Jefferson Medical College.

The conditions of the contests are:

(1) The essays are to be typewritten and in English, and the contests are to be open to everyone.

(2) Essays must contain not less than 5,000 or more than 20,000 words, exclusive of tables. They must be original and not previously published.

(3) Essays must not be signed with the true name of the writer, but are to be identified by a nom de plume or distinctive device. All essays are to reach the secretary of the Academy on or before January 1 of the years for which the prizes are offered and are to be accompanied by a sealed envelope marked on the outside with the fictitious name or device assumed by the writer and to contain his true name inside.

(4) Each competitor must furnish four copies of his competitive essay.

(5) The envelope containing the name of the author of the winning essay will be opened by Dr. McIntire, or in his absence by the presiding officer at the annual meeting and the name of the successful contestant announced by him.

(6) The prize in 1918 for the best essay submitted according to these conditions will be $100.00; that of 1921 will be $250.00.

(7) In case there are several essays of especial merit, after awarding the prize to the best, special mention of the others will be made and both the prize essay and those receiving special mention are to become at once the property of the Academy, probably to be published in the Journal of Sociologic Medicine. Essays not receiving a prize or special mention will be returned to the authors on application.

(8) The American Academy of Medicine reserves the right to decline to give the prize if none of the essays are of sufficient value.

The present officers of the American Academy of Medicine are: George A. Hare, M.D., Fresno, California, president; J. E. Tuckerman, M.D., Cleveland, Ohio, president-elect; Charles McIntire, M.D., Easton, Pennsylvania, treasurer, and Thomas Wray Grayson, M.D., 1101 Westinghouse building, Pittsburgh, Pennsylvania, secretary.

*Reprinted from the Journal of Sociologic Medicine, Vol. xvii, No. 6, December, 1916.

The Journal of the Iowa State Medical Society

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T. B. THROCKMORTON, Business Manager.....Des Moines, Iowa

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OFFICE OF PUBLICATION, DES MOINES, IOWA

Vol. VII May 15, 1917 No. 5

NEED OF SURGEONS FOR MILITARY SERVICE

Questions in relation to the importance of high order medical and surgical service in the army, are no longer discussed. Every army and navy officer, every statesman and every civil official of respectability admits the fact. The only question is how much authority shall be given the medical officer. Even this is reduced to the question of efficiency; give the medical officer all the authority necessary to get the best results. The Government feels the deepest anxiety touching this branch of the service and every reasonable effort is being made to secure not only a sufficient number of medical officers but of the highest quality. It should not be a question of securing men who have not succeeded in private practice and who are practically "foot loose" but men who have reached the highest degree of success on the merits of their work and are not "foot loose." It is gratifying to note that a goodly number of this class have offered their services regardless of the sacrifice. There are many high grade men just entering on practice who have not been out of school long enough to prove their usefulness that are much needed, who perhaps hesitate because they feel they cannot afford to lose the opportunity for productice private work. Iowa will probably need 300 medical officers to supply the National Guard, and her quota of soldiers for the war. In a short time we shall have a complete list of medical men of the state who may be called on for service of one kind or another, but the point to be most emphatically impressed on the mind of the profession is that the state needs the best; those who cannot afford to go. Our nation did not have its birth until the close of the war of 1861. A new era in the history of the world will begin at the close of this war. We could not become a nation until we had passed through a most bloody trial, and the world cannot come into the fullness of a regeneration except through the most frightful struggle in history. This is not a war of sentiment; it is not a war of conquest; it is not a war to test the strength of nations; it is a test of the strength of principle. The storm has been gathering for years; industrial and territorial compromises have been made to avert it, but men of farsighted vision felt that the storm must come as did men before '61, and now we are in the midst of it. It is a death struggle between democratic and autocratic forms of government. It is the vision of Lloyd George or the vision of the autocratic governments. One has fallen, others must fall in one way or another. We deferred our part until now; there can be no compromise and we must put forth our best. We pray you to consider that the great arm of the medical profession must be put forth. Armies without food, armies without skilled surgeons and skilled medical scientists in modern warfare, are helpless. Shall we stand idle until rank and honors are offered us or until we are called to duty by the strong arm of Government? No, let us be among the first to offer the best we have; our skill, in warring against disease and death from the battlefield.

An important step in medical preparedness is the determining of our medical resources; how many men are there of proper age that have the physical endurance, qualifications, and mental training that would fit them to serve in any limited capacity as an army surgeon. Then there are a number of medical men who are physically and mentally qualified for any class of service, but for one reason or another cannot well afford to offer their services for permanent employment, but could be used temporarily; and then there is a list of young men who have recently entered the practice of medicine that can well afford to enlist for permanent service. Without an inventory of the medical men of the state, or nation, we are not in position to determine how many can be called upon for any one or other of this class of professional work. To ascertain what our resources are in this direction, county committees have been appointed who will act permanently in gathering the medical information and medical statistics of their county and forward them to the state committee who will in

turn furnish the information to the United States Government.

BRITISH MEDICAL JOURNAL AND THE WAR

Probably never in the history of the world have nations taken a more serious inventory of their worthiness than now. Men that were well informed, of a judicial turn of mind, and could watch calmly the trend of events, could see dimly what has come to pass. The leading nations of Europe, including Japan and the United States, when the great war broke out, were in the midst of a great struggle for industrial supremacy. It was clearly apparent that in a few years Germany with its scientific economic methods would lead the world. Not being content with its rapidly approaching industrial supremacy, she seeks political supremacy and the world is aroused. Russia, agricultural and without industries, would soon fall a victim. England, great in every respect but with bad labor conditions largely on account of alcohol and a bad system of labor rewards. The United States with blundering tariff and industrial laws, built up largely on the basis of money greed on the part of organized capital and organized labor with a conflict threatening to disrupt society, always trying one expedient and then another to escape the threatenings of this year, trusting to providence for the trials of next year. While Germany and Japan were adjusting tariff laws to promote the welfare of all organizing combines and pools under government control to prevent destructive competition by producing the best, we were inviting competition by prosecuting what Germany was encouraging, to the disadvantage of our people, and cheapening our products in quality beyond the hope of competition. Now each nation is laid bare and we can take an inventory of each without padding. Thoughtful men are discovering with humiliation just what we are. England saw it before it was too late; with us it is a serious problem. Is it too late?

This British Medical Journal with these thoughts in mind, makes an inquest.

The war, and the strain on the resources of all classes caused by its prolongation, has led to a sort of grand inquest of the nation not confined to the House of Commons. All classes have taken a share in it, and all the organizations of peace, and all the institutions which have grown up under it, have been examined and their defects searched out. Mankind gives itself, in these fierce times of stress, the blessed consolation of a belief that things will be better after the war than they were before—that there will be a new spirit in a new-made world.

In the conduct of the war we seem to have reached the stage of construction when the critics are being set to mend matters; in the conduct of civil life we seem to be still mainly in the stage of criticism, seeking to destroy what it judges to be defective. Medicine has not escaped this general tendency; it does not seek to escape it, and its keenest critics are those of its own household. We have seen the very fundamentals of the principles of the treatment of wounds re-examined, we have seen bacteriology and intensive clinical observation and laboratory investigation applied to the analysis of known epidemic diseases with resulting improvement in prophylaxis and administration, and we have witnessed the recognition of some diseases of this class which are either new or hitherto rare and imperfectly studied.

* * * * * *

The organization of the profession to meet the strain which the war puts upon its resources was taken in hand at an early date, and the work connected with it has involved the expenditure of much time, energy and money. The establishment of the Central Medical War Committee for England and Wales, which works with local committees, and with a national committee in Ireland, was due to the initiative of the Association, and the English committee is in close co-operation with a similar committee established in Scotland, and with the special Committee of Reference of the Royal Colleges in London. These committees were recognized under the Military Service Acts as the Central Professional Committees for England and Wales and for Scotland, and the Reference Committee was similarly recognized for certain special purposes. They are now representing to the Government the desire of the medical profession, should mobilization of the nation for national service become necessary, to organize the scheme as it affects the medical profession so as to secure the highest efficiency with the least dislocation of civil work.

THE MORE RECENT GRADUATES DESIRED

According to news from Washington, the quota necessary to fill the present vacancies and requirements of the army medical corps will be drawn from among those who graduated in 1912 to 1916. The total number that would be included in such a list would be approximately 19,000. The list of graduates in the five years mentioned, and also for 1917, is as follows:

Medical College Graduates from Colleges in Class

	A	B	C	Totals
1912	2,790	1,063	629	4,482
1913	2,539	1,050	392	3,981
1914	2,626	686	282	3,594
1915	2,629	688	219	3,536
1916	2,630	695	193	3,518
1917*	2,641	625	101	3,367
Totals	15,855	4,807	1,816	22,478

*Seniors

As stated last week, there is an immediate need of additional physicians for the medical corps of the army, and for the medical corps of the navy. For these positions preference will be given to young physicians. The army medical corps insists on a year's internship in a hospital after graduation; the navy, however, is not now insisting on this, but is recognizing 1917 graduates. The young man who takes any of the positions now open is availing himself of a great opportunity for life work. The army and navy medical services offer a chance for a broad general training, an opportunity to do research in time of peace and, perhaps, of early promotion as never existed before.—Journal of the American Medical Association, April 14, 1917.

AMERICAN MEDICAL EDITORS' ASSOCIATION, JUNE 4-5, 1917

The annual meeting of the American Medical Editors' Association will be held at the McAlpin Hotel, New York City, on June 4 and 5, under the presidency of Dr. G. M. Piersol, editor of the American Journal of Medical Sciences.

A most interesting and instructive program is now being prepared and it is contemplated that the forthcoming session will be the largest ever held in the history of the association.

The forty-eighth anniversary of this society will be celebrated by a banquet on the evening of June 5, at the McAlpin Hotel.

Freeport, Ill., March 28, 1917.

Dr. D. S. Fairchild, Editor,
Iowa State Medical Journal,
Clinton, Iowa.

Dear Doctor: The territory covered by the Tri-State District Medical Society this year is composed of sixteen counties in Wisconsin, fifteen in Iowa and fifteen in Illinois. They are as follows:

Wisconsin—Dane, Green, LaFayette, Rock, Iowa, Grant, Columbia, Crawford, Dodge, Jefferson, Richland, Sauk, Walworth, Waukesha, Washington and Vernon.

Iowa—Dubuque, Cedar, Blackhawk, Muscatine, Clinton, Scott, Buchanan, Jones, Fayette, Linn, Bremer, Jackson, Johnson, Delaware and Clayton.

Illinois—Boone, Bureau, Carroll, DeKalb, Henry, JoDaviess, Kane, LaSalle, Lee, McHenry, Ogle, Rock Island, Stephenson, Whiteside and Winnebago.

The honorary members of the advisory board are the presidents and secretaries of the three state medical societies and the editors of the state journals. The active members are the councilors, presidents and secretaries of the county societies within the districts of the organization.

Please find enclosed a copy of the constitution and by-laws of this organization. The annual scientific and clinical meeting will be held this year at Dubuque, Iowa. The date has not yet been set.

Last year's meeting was held at Freeport and consisted of nine counties in Wisconsin, nine in Illinois and five in Iowa. On account of the large attendance and the enthusiasm displayed at this meeting, it was decided to change the name from "Confederation of County Medical Societies" to "Tri-State District Medical Society" and enlarge the territory to a considerable extent.

This organization is primarily a confederation of county medical societies banded together for a true fraternal and professional spirit as well as scientific and research work. We feel that this association is destined to become one of the finest medical organizations in the middle west.

In conclusion, we wish to say that we are glad to have you, Doctor, on the advisory board as an honorary member and feel sure that we can depend upon you for your hearty co-operation in this year's work.

Fraternally yours,
DR. W. B. PECK,
President.
DR. N. C. PHILLIPS,
Secretary.

UNIVERSITY OF WISCONSIN

We take pleasure in reproducing a part of a letter from Dr. J. S. Evans to the editor of the Lancet-Clinic, in relation to the service rendered the University by the Department of Medicine. It will be remembered that the medical department covers the first two years of the ordinary medical course.

The University of Wisconsin has 6,810 students. This department was established in 1909 with a double purpose, namely, to develop a system of medical supervision and to recognize the clinical facilities in this community for the purpose of clinical instruction. Conditions, therefore, were ideal to place the medical supervision under the direction of the medical school and to develop it along methods similar to those employed in the clinics attached to the four-year schools of medicine. This gave to the office that support and dignified position without which its rapid progress would have been impossible.

1. **Medical Fee**—None as such. The cost of the department naturally belongs to the expense of administration. At Wisconsin each student pays an incidental fee of twelve dollars each semester, which is supposed to cover the cost of those administrative measures not purely educational, i.e., business administration, physical training, supervision of social activities and health supervision.

2. **Amount of Service Rendered to Students**—No definite regulations limiting the staff have been made. The general principle is to supervise all medical and minor surgical cases if it seems wise, either from the standpoint of the individual, or of the University. We try to make the student feel that he has the right to consult us and that it is our privilege to care for him.

There is a faculty regulation to the effect that each entering student receive a medical examination. This is done at the beginning of each semester in order to determine each student's medical fitness to enter and at the same time to classify the students both from the academic and physical standpoints in relation to their health.

HEROIN

It was regularly moved by Dr. Frederick Peterson and seconded by Dr. Samuel W. Lambert that it be resolved that in the opinion of the committee, the drug heroin is of no real value in the practice of medicine, and that its place may be better taken by more efficacious agents that do not menace public welfare.

Resolved, That the committee recommend Federal legislation to prevent the importation, manufacture and sale of heroin in the United States of America.

(Signed) SAMUEL W. LAMBERT, M.D.,
FREDERICK PETERSON, M.D.,
CHARLES F. STOKES, M.D.,
FREDERICK TILNEY, M.D.,
SIMON BARUCH, M.D.,
Chairman, Com. on Drug Addiction.
HELEN HARTLEY JENKINS,
Chairman, Com. on Social Hygiene.

CARCINOMA FOLLOWING A BURN

Observations have been made in India for some years on the occurrence of cancer of the skin induced by the application of heat to the abdomen and thighs of the natives of Cashmir, those who carry the kangri or portable fire basket under their clothes for the purpose of warmth. This is recognized as the type of epithelioma due to frequent repeated traumas.

Dr. Thomas R. Chambers, of Baltimore, records in the Annals of Surgery for November, 1916, a case of single burn resulting in malignancy. This patient was a fireman in a steam laundry, who accidently brought the back of his wrist against the side of the furnace door, causing a deep and painful burn. The wound did not heal, and on making a microscopical examination of excised tissue, it was shown that this was really a cancer that had supervened upon a burn. This case is reported because of its unusual nature.

Coley after an extensive examination of literature, reported 970 cases of sacroma due to trauma.

Several cases of epithelioma arising in the cicatrix of a burn, have been reported, but no case has been noted of malignant disease following upon a single thermic burn.

STATE MEDICAL SOCIETY OF NEW JERSEY APPOINTS COMMITTEE TO STUDY THE HOSPITAL PROBLEM

At a recent meeting of the New Jersey State Medical Society the following resolution was passed:

"Resolved, That a committee of seven members, including three state members representing the American Medical Association, be appointed by the president to study the status of the general hospitals located in the state, which study shall aim for the betterment and standardization of these institutions, and that the state committee be authorized to confer with the national or other established committees organized for this purpose, and shall report at the next annual meeting of this Society; and should any circumstances arise to make earlier action desirable, this committee shall report to the councilors of this Society, and action be taken in accord with the findings of the councilors."—(The Modern Hospital.)

BOOK REVIEWS

PROGRESSIVE MEDICINE

Vol. 20, No. 1. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D., Assisted by Leighton F. Appleman, M.D., Lea & Febiger, New York and Philadelphia. Price $6.00 Per Annum.

Prof. Charles H. Frazer of the University of Pennsylvania, reviews the literature on the Surgery of the Brain, and makes the encouraging statement: "Each year sees a slight advance in our knowledge of the pineal body in health and disease" and abstracts the late literature on the subject. Among the cases reviewed is one recorded in the Journal of the Iowa State Medical Society by Dr. C. E. Ruth, of Des Moines. The review of the literature on the surgery of the brain is interesting; particularly on the treatment of trigeminal neuralgia by Beckman on 177 cases treated at the Mayo Clinic. In the war zone, a great mass of literature has accumulated on wounds of the skull and brain which Dr. Frazer has considered with respect to certain vital points.

In relation to Tuberculosis of the Cervical Glands of the Neck, Frazer expresses a preference for operative interference over x-ray and tuberculin treatment which has gained some popularity under the influence of the Murphy Clinics.

A rather extensive review of the literature on Goitre is presented, particularly the work by Crile and Plummer and Kendall.

The Section on Surgery of the Thorax is written by Prof. George P. Muller of Philadelphia, and reviews rather extensively the War Surgery of the Chest, including the observations of Prof. Howard of the Iowa State University.

Infectious Diseases are reviewed by Prof. John Ruhrah of Baltimore, which includes a variety of dis-

cases of great interest to the general practitioner. Considerable space is given to poliomyelitis.

Dr. Floyd M. Crandall writes the review on Children's Diseases. He presents some interesting information and statistics on Infant Mortality.

Surgeon Taliaferro Clark of the United States Public Health Service, commenting on physical inefficiency, states that only 316 of 11,012 applicants for enlistment in this branch of the service were up to the required standard. He attributes this to lack of early physical training.

The Section on Rhinology, Laryngology and Otology is prepared by Dr. George M. Coates.

THE MEDICAL CLINICS OF CHICAGO

Vol. 2, No. 5, March, 1917. Octavo of 227 Pages, 40 Illustrations. W. B. Saunders Company, 1917, Philadelphia and London. Published Bi-Monthly. Price Per Year; Paper, $8.00; Cloth, $12.00.

The first clinic is by Dr. Frederick Tice on Anaphylaxis and is a discussion of a theoretical and practical nature.

Dr. Abt in a clinic on Pyelitis in Children, considers the different avenues of infection and refers to the direct lymphatic connection and the possibility of a direct infection of the right kidney from the colon.

Dr. Charles S. Williamson reviews rather extensively three cases of Pericarditis.

Dr. H. H. Schuhmann presents a contribution on The Relationship of Oral Foci of Infection to Systemic Diseases.

There are other important clinics by Drs. Strouse, Mix, Wright, Smithes and others that are worthy of careful consideration.

NEW AND NON-OFFICIAL REMEDIES

Nineteen Hundred Seventeen, Containing Descriptions of the Articles Which Have Been Accepted by the Council on Pharmacy and Chemistry of the American Medical Association Prior to January 1, 1917. Cloth, Price, Post-Paid, $1. Pp. 412 + xxiv. Chicago: American Medical Association, 1917.

This book lists and describes the non-secret proprietary remedies that have been accepted by the Council on Pharmacy and Chemistry of the A. M. A. It also describes the newer non-proprietary remedies which give promise of some real value that have been accepted by the Council. Each description includes the chief facts physicians desire to know concerning composition, dosage, indications, cautions to be observed, etc. The book also contains general articles which compare the value of the proprietary remedies with the established drugs they are intended to supplant. Every physician who wants to keep abreast of the times should have a copy of this annual.

ANNUAL REPRINT OF THE REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR 1916.

Cloth, Price, Post-Paid, 50 Cents. Pp. 87. Chicago, American Medical Association, 1917.

This volume contains the reports of the Council which were adopted and authorized for publication during 1916. It includes reports of the Council previously published in The Journal of the American Medical Association and also reports which, because of their highly technical character or of their lesser importance, were not published in the journal.

In this volume the Council sets forth the reasons for the rejection of the articles which were examined and found ineligible for New and Non-Official Remedies. It also explains why certain preparations included in previous volumes are not contained in the latest (1917) edition of New and Non-Official Remedies. Physicians who wish to be informed in regard to the status of proprietary and unofficial remedies should have the volumes of the Council Reports, in addition to New and Non-Official Remedies.

THE JOURNAL OF UROLOGY

The Journal of Urology has appeared in response to the rapid advancement of interest in the physiology, pharmacology, chemistry, pathology and bacteriology of the urinary tract and its adnexa. The importance of this department of medicine has just come to be fully understood from the standpoint of research lines. Both the surgeon and the internist are entering on new fields of interest in relation to the kidneys, ureters and bladder. An immense amount of literature is growing up on urology, and leaders in this field have felt the necessity of coordinating the best that is written, and publishing clinical and research work in the best form for reference. The editorial work has been placed in the hands of Dr. Hugh H. Young of Johns Hopkins assisted by a group of well known names, including Henry A. Christian and Hugh Cabot of Harvard; Theodore C. Janeway of Johns Hopkins; W. Ophuls, Leland Stanford; L. G. Rowntree, University of Minnesota; L. E. Schmidt, Northwestern, and other well known workers in this field.

The first number contains 138 pages on fine paper. The contributions are beautifully illustrated. The journal is to appear monthly at $5.00 per annum. The first number appeared in February. Published by Williams and Wilkins Company, Baltimore, Maryland; Mr. Charles C. Thomas, circulation manager, Baltimore.

THE AMERICAN JOURNAL OF SYPHILIS

This is a new journal devoted to the study of syphilis, published by the C. V. Mosby Company, St. Louis, Mo., under the editorial management of Lloyd Thompson, M.D., Hot Springs, Ark., with a group of department editors of great distinction, in-

cluding such well known names as Hideyo Noguchi, M.D., New York; Eugene L. Opie, M.D., St. Louis; Myles Standish, M.D., Boston; E. L .Keyes, Jr., M.D., New York; Lewellys F. Barker, M.D., Baltimore; F. W. Lynch, M.D., San Francisco; Wm. A. Pusey, M.D., Chicago; Rudolph Matas, M.D., New Orleans, and others.

The journal is to be published quarterly, January, April, July and October. Subscription price $5.00 per annum. The C. V. Mosby Company, Metropolitan building, St. Louis, Mo.

MEDICINE AND SURGERY

Published Monthly by the Medicine and Surgery Publishing Company, Metropolitan Bldg., St. Louis, Mo. Subscription $3.00 Per Annum. Philip Skrainka, M.D., Editor-in-Chief.

This new enterprise in medical journalism is undertaken by the former literary editor of the Interstate Medical Journal. Dr. Philip Skrainka is easily one of the most brilliant medical editors in the country and contributed largely to making the Interstate one of the most popular of medical journals. Dr. Skrainka's experience in medical journalism and his ability as a writer will without doubt place this new periodical in the front ranks. Dr. Skrainka has associated with him a group of leading physicians and surgeons of Philadelphia, New Orleans, St. Louis, Chicago, Kansas City, Washington and Boston.

The editor offers no special reason for the addition of a new journal to the long list in the field except on the basis of merit which he hopes to establish by a devotion to the highest ideals in medicine and surgery.

We welcome the new enterprise, particularly the able editorials which alone will recommend the journal to the profession. The first number contains a list of contributions of high order and we feel quite sure the editor's knowledge of men will lead him to maintain the excellence promised.

THE MEDICAL CLINICS OF CHICAGO

Volume II, Number 4. (January, 1917.) W. B. Saunders Company. Published Bi-Monthly. Price Per Year $8.00.

The January number of the Medical Clinics presents twenty clinic cases by well known Chicago teachers, some of particular interest. The first is a discussion on Splanchnoptosis by Dr. Williamson, in which a full account of this condition is given, illustrated by a study of three patients.

Dr. Frederick Tice presented a patient suffering from pulmonary abscess following delayed resolution in croupous pnuemonia. Pulmonary abscess following pneumonia presents some difficulty in diagnosis and is liable to be overlooked. In every case of delayed resolution, the possibility of abscess formation should be thought of, and as a certain number are amenable to surgical treatment, an exploration by a large aspiratory needle should be made after a careful physical and x-ray examination. All this is pointed out by Dr. Tice.

Dr. Frank Wright presents a clinic on the newer methods of detecting acidosis.

Dr. Walter W. Hamberger takes up the study of Achylia Gastrica in an interesting and instructive way.

Dr. Ralph C. Hamill considers some interesting problems of psychiatry, followed by a clinic on Acute Disseminated Myelitis and Acute Syphilitic Meningomyelitis.

Dr. Charles L. Mix presents an unusually interesting and instructive clinic on Duodenal Ulcer and various complications, involving questions of differential diagnosis. The practitioner will find much that is helpful in this group.

Dr. Isaac A. Abt gives us an exceedingly interesting Children's Clinic, including two subjects; one, Disease Resistance in Relation to Nutrition of Infants, and the second; Decomposition. One cannot read these chapters without having a clearer conception of the problems involved in children's diseases.

Barium Diagnosis, X-Ray Department, St. Luke's Hospital, Dr. James T. Case.

Anything that comes from Dr. Case attracts our attention. This communication relates to the technic of the gastro-intestinal rontgen examination of which Dr. Case is a master. We often hear of "high enema" both in hospitals and among physicians. We should hope that physicians at least would be cured of this absurdity after reading Dr. Case's paper. Hospitals are incurable.

This number of the Chicago Clinics is one of the most valuable of the series.

THE SURGICAL CLINICS OF CHICAGO

Volume I, No. 1, February, 1917. Octavo of 221 Pages, 83 Illustrations. W. B. Saunders Company, 1917. Published Bi-Monthly. Price Per Year, Paper $10.00; Cloth, $14.00.

The Chicago Surgical Clinics is the successor of the Murphy Clinics which has become so well known to the profession. From an examination of the first number, we are convinced that the new work will more than fill the place of the one interrupted by the untimely death of Dr. John B. Murphy. The publishers have profited by the experience of putting out the first series and will now offer something on the same general plan, but will give a greater variety of presentation and a more logical arrangement of the vast clinical material afforded by the great Chicago hospitals.

The first clinic is at Presbyterian Hospital in the service of Dr. A. D. Bevan: Gall-Stone Disease and the Principles of Operative Treatment of Hernia. A few illustrative cases are presented, but the time is mainly taken with an exposition of the important facts and principles which govern in the surgical treatment of these affections.

Dr. A. J. Ochsner at Augustana presents clinics on Goitre and on Hernia.

Dr. E. Wyllis Andrews at Mercy Hospital, considers Operative Treatment of Fracture of Patella and Some Observations on Plastic Surgery.

Dr. L. L. McArthur reviews the Technic of Gastric Surgery.

Some of Chicago's younger surgeons now appear on the field. Dr. Dean Lewis at Presbyterian; Dr. A. B. Kanavel at Wesley; Dr. D. M. Eisendrath and Dr. Kellog Speed at Cook County; Dr. S. C. Plummer at St. Luke's; Dr. Edwin W. Ryerson at Chicago Policlinic; and Dr. D. B. Phemister at Presbyterian. It will be gratifying to know that the older men who have made Chicago surgery famous, will be followed by worthy successors who are already becoming famous by the excellence of their work.

Dr. Carl Beck comes forward with new demonstrations of the value of bismuth paste when properly used.

We have stated that the new series of Clinics will from this time on more than fill the place occupied by the first series. What we need is a fuller exposition of the principles of surgical treatment with the presentation of a few cases which will illustrate the technic best adapted to the object in view—the cure of surgical diseases. We do not need a crowded clinic but a well worked out plan of principles, diagnosis and technic.

A MANUAL OF THERAPEUTIC EXERCISE AND MASSAGE

Designed for the Use of Physicians, Students and Masseurs. By C. Hermann Bucholz, M.D., Orthopedic Surgeon, Out Patients; Director of the Medico-Mechanical and Hydrotherapeutic Departments of the Massachusetts General Hospital, Boston; Assistant in Physical Therapeutics, Harvard Graduate School of Medicine. Illustrated With 89 Engravings. Lea and Febiger, 1917. Price, $3.25.

The value of mechano-therapeutics is well recognized but little practiced except by various schools of irregular practitioners. Physicians have too little time, knowledge or disposition to employ a means of treatment they are willing to recognize the value of, but from a lack of practical training, allow it to fall into the hands of pretenders.

The practical application of massage and exercise is not difficult and would add materially to the success of practitioners who deplore the passing of valued patients into the hands of quacks.

The book before us points out the value of mechanical therapeutics and the technic of its use in a great variety of conditions. Special emphasis is placed on massage in Colle's fracture, and the author quotes Cotton as holding that the bad results were more frequently due to bad treatment than to the injury. A fixed dressing should not be used in this form of fracture. After reduction, in three or four days, massage should be resorted to with a very material shortening of the period of disability, if not preventing some permanent effects. Massage in infectious arthritis needs to be considered with much care. "Breaking up adhesions" is generally bad treatment but massage and exercise at the proper time will often give good results. X-ray diagnosis, massage, and exercise are of the utmost value in joint conditions. Muscular disabilities after fractures are most helpfully treated by massage and much time can be saved to the injured workman, for instance.

We can only mention a few subjects treated of in the work, but would recommend it to the serious consideration of every general practitioner.

LELAND STANFORD JUNIOR UNIVERSITY PUBLICATIONS, UNIVERSITY SERIES—BONE AND JOINT STUDIES

Leonard W. Ely, Associate Professor of Surgery (Orthopedics); John Francis Cowan, Assistant Professor of Surgery. From the Laboratory of Surgical Pathology, Stanford Medical School. Published by the University.

The first series of studies related to the dog's knee joint. The purpose was to demonstrate the effect of resecting the knee joint; twenty-one dogs were used. The results fall into four groups:

1. Bony union.
2. Firm fibrous union and cartilaginous union.
3. Loose fibrous union, with or without synovial cavities.
4. The formation of a new joint with a joint cavity and a covering of the bone ends by cartilage.

Second series: Reaction of the Tissues of the Knee Joint of the Rabbit to Injury.

Third series: Removal of Cartilage and Boring Through the Subjacent Buttress.

One hundred twenty-two rabbits were used in the second and third series of experiments. The purpose of these experiments was to observe the reaction and the repair of the articular cartilage.

HANDBOOK OF SUGGESTIVE THERAPEUTICS, APPLIED HYPNOTISM, PSYCHIC SCIENCE

By Henry S. Munro, M.D., Omaha, Nebraska. Fourth Edition. Revised and Enlarged. C. V. Mosby Company, St. Louis, 1917.

The psychology of human life is so complex that it seems quite impossible to interpret more than a mere fraction of its manifestations. Men of a philosophical habit of mind by a close analysis of mental activities, reach certain conclusions which are quite incomprehensible to another, and men of but little understanding also have systems of philosophy quite satisfactory to themselves; and all entertain beliefs more or less divergent but meet at certain points of agreement. The belief entertained by individuals or communities govern their action and be-

come a part of their lives and conduct. The psychial activities of men are subject to many variations and are greatly influenced by physical and physiological conditions. There is a constant interaction between the physiological and psychial influences. Developmental and educational relationship, self interest, religion, racial and sexual facts, all come into play in the formation of beliefs more or less accurate and scientific. We cannot indulge in speculation but merely draw out the fact that mental conditions exert an immense influence on physiological activities insofar as the nervous system is concerned. All the world is conscious of this, and particularly the medical practitioner. This fact has become more and more apparent as neurological science has developed. In all times, various sects of practice have flourished on—it may be—ignorance and superstition. Nevertheless results were obtained. Study and observation has shown that a co-ordination of the methods employed by "quacks and charletans" could be utilized to the great advantage of certain patients under the head of psychotherapeutics which has now become recognized as a rational system of therapeutics. Dr. Munro has with great patience and industry, worked out a plan of treatment of great value to the general practitioner. Within the past few years, an immense literature has grown up on psychoanalysis and psychotherapeutics, which is quite beyond the comprehension of the general practitioner or perhaps beyond anyone else, but there is a psycho and suggestive therapeutics of real merit which can be successfully practiced by one having the patience and ability and temperament. With this brief introduction, we offer Dr. Henry Munro's book which contains a full exposition of his method.

LELAND STANFORD JUNIOR UNIVERSITY PUBLICATIONS, UNIVERSITY SERIES—THE PATHOLOGY OF NEPHRITIS AS ILLUSTRATED BY THIRTY-TWO CONSECUTIVE CASES

By William Ophuls, Professor of Pathology. Published by the University.

GENERAL MEDICINE

Volume VI, Edited by Dr. Frank Billings, Assisted by Dr. B. O. Raulston. Price $1.50. (Practical Medicine Series.) Year Book Publishers.

OBSTETRICS

Volume VII. Edited by Dr. Joseph B. DeLee, and Dr. H. M. Stowe. Price $1.35. (Practical Medicine Series.) Year Book Publishers.

MATERIA MEDICA AND THERAPEUTICS, AND PREVENTIVE MEDICINE

Volume VIII. Edited by Dr. George F. Butler, and Dr. W. A. Evans. Price $1.50.

These volumes are parts of the 1916 series of the Year Book Publishers. The editors are well known, the books are reviews and editorial comments on the literature of the preceding twelve months.

INTERNATIONAL HEALTH COMMISSION

Publication No. 3. Effects of Hookworm Disease on the Mental and Physical Development of Children. By Edward K. Strong, Jr., M.D. Published by the Rockefeller Foundation, 1916.

COMING MEETINGS

The nineteenth annual meeting of the American Proctologic Society will be held at New York City, June 4 and 5 under the presidency of Alfred J. Zobel, of San Francisco. The following papers appear on the program:

Adult Rectal Prolapse; Two Cases and a Contrast—Ralph W. Jackson, Fall River, Mass.

Adenomyoma of the Rectum—Frank C. Yeomans, New York City.

Summary Reports of Nine Cases of Peri-Colic Membrane—John L. Jelks, Memphis.

Should the Sphincters be Divided?—Rollin H. Barnes, St. Louis.

Neglected Rectal Examination—James A. McVeigh, Detroit.

Enemas and Colonic Flushing as Etiologic Factors in Appendicitis—William H. Stauffer, St. Louis.

The Relationship of Hemorrhoidal Disease to the Health Balance—William M. Beach, Pittsburg.

The Underlying Factors of the Clamp and Cautery Operation for Internal Piles—W. Oakley Hermance, Philadelphia.

The Pathology of Hemorrhoids—J. Coles Brick, Philadelphia.

Report of a Case of Idiosyncracy to Quinine and Urea Hydrochloride—Collier F. Martin, Philadelphia.

Neoproctology—A Glimpse into the Future—Jerome M. Lynch, New York City.

The Post-Operative Factor in Rectal Surgery—Barney J. Dryfuss, New York City.

The Non-Surgical Treatment of Splanchnoptosis—Rolla Camden, Parkersburg, West Virginia.

SOCIETY PROCEEDINGS

The Cass County Medical Society met April 11 at the Commercial Club rooms, Atlantic, when the following program was carried out:

Intestinal Strangulation, Report of Cases—F. J. Becker, Atlantic.

Eczema in Children—Chas. McMartin, Omaha.

Pneumonia Discussion, Opened by—C. L. Campbell, Atlantic.

Paper—R. L. Barnett, Cumberland.

Lymphatic Leukemia—With Report of Case—C. B. Burke, Atlantic.

At the regular meeting of the Cerro Gordo County Medical Society held April 28 at Mason City, R. S. McCaughey, of Mason City, read a paper on Enteritis; H. D. Holman, of Mason City, presented a paper on The Relation of Modern X-Ray to Modern Medicine, and C. L. Marston, who recently spent some time in New Orleans, gave an interesting account of work done under local anesthesia at the clinics held in the hospitals in that city.

The Dallas-Guthrie County Medical Society held their April meeting at Dean Hotel, Panora, April 19. W. M. Blowers, of Linden, read a paper on the Significance of High Blood-Pressure, and E. J. Butterfield, of Dallas Center, presented a paper on the Significance of Low Blood-Pressure.

The annual meeting of the Grundy County Medical Society was held at the court house at Grundy Center, April 11. The officers elected are: President, W. O. McDowell, Grundy Center; vice-president, J. C. Corsant, Dike; secretary, L. H. Carpenter, Grundy Center; treasurer, G. A. Biebsheimer, Reinbeck; delegate, R. T. Spain, Conrad.

The Henry County Medical Society held a very profitable meeting at the assembly room of the court house, Mt. Pleasant, April 19. On this occasion the society entertained the members of the Fort Madison Medical Society and the dentists of Mount Pleasant as guests. A business meeting was held in the forenoon followed by a bounteous luncheon served at the New Brazelton Hotel. The scientific program given by the Fort Madison society was up to the standard usually given by this society. Dr. C. F. Appelgate, president of the Henry County Medical Society presided. Dr. J. M. Casey read a paper on the Ductless Glands; the subject, Focal Infection, was presented by Dr. W. C. Kasten; Disinfectants, was the subject handled by Dr. L. M. Bishoff, and the Magic of Medicine, as presented by Dr. F. C. Roberts, appealed to all.

The Marion County Medical Society held an interesting meeting April 12 at the Red Men's Temple, Bussey. After the business session in the morning, a bounteous dinner was served by the ladies of the Methodist church. The scientific session in the afternoon under the direction of the president of the society, E. R. Ames, of Knoxville, was an interesting one and all papers presented were thoroughly discussed to the benefit of all. H. C. Eschbach, of Albia, was the society's guest on this occasion. The papers read were:

Hydatiform Cyst or Uterine Mole—H. C. Eschbach, Albia.

Diseases of the Breast Following Confinement—E. P. Bell, Pleasantville.

A Day's Work of a Doctor—Carl Aschenbrenner, Pella.

The Pocahontas Medical Society met at Laurens, April 10. The subject paramount for discussion at this meeting was Medical Preparedness and a number of those present volunteered their services to the country, if needed.

The Pottawattamie County Medical Society held an interesting meeting at the Grand Hotel, Council Bluffs, April 3. Dr. Donald Macrae delivered an address on Surgery and Medicine in Our Army Today. The Health of the Army from the Viewpoint of the Line Officer, was the subject of Dr. M. A. Tinley's address; Dr. V. L. Treyner, read a paper on Syphilis; papers were also read by Drs. Sidney Smith and J. M. Barstow.

The Plymouth County Medical Society met at the Commercial Club rooms, Le Mars, March 6 at eight P. M. The members present were: Drs. Bellaire, Mammen, Fettes, Shepard, Lamb, Joynt, Cole, Larsen and Jastram. In the absence of the president, Dr. J. H. Kerr, the vice-president, Dr. R. F. Bellaire, presided. The scientific program followed the business session. Dr. M. J. Joynt, of Le Mars, read a paper on the Common Affections of the Middle Ear. Dr. J. A. Lamb, of Le Mars, read a paper on Birth Control. The subject of a paper by Dr. W. T. Shepard, of Le Mars, was The Personal Relations of the Profession. All of the papers elicited an interesting discussion.

May 1 another interesting meeting was held at which time the following subjects were presented: Abdominal Pain and Tenderness, J. H. Robbins, Hinton; The Diagnosis of Appendicitis, J. M. Fettes, Le Mars, and, The Apathy of the Profession, T. E. Cole, Le Mars.

At the meeting of the Polk County Medical Society held March 27 at the Savery Hotel, a program of unusual interest was given. The subjects and speakers were:

Army Organizations—Major Wilbur S. Conkling.

Field Work of the Medical Corps—Major Thos. F. Duhigg.

Base Hospitals—Captain Thos. A. Burcham.

Camp Diseases—Captain John Russell

Camp Sanitation—Captain Rodney Fagan.

The Polk County Medical Society met at the Savery Hotel, Des Moines, April 24. The meeting convened at 8:15 P. M. with President Minassian in the chair. The program was:

Epigastric Hernia—F. Rosenbladt, M.D.

Some Aspects of Military Surgery—F. R. Holbrook, M.D.

The subject of Epigastric Hernia was handled in a very instructive manner by Dr. F. Rosenbladt. He called particular attention to the importance of small protrusions which may be epigastric hernia as a cause of vague abdominal pains while the patient is in the upright position.

Dr. F. R. Holbrook related in a most entertaining and instructive manner, his experiences while at a field hospital and later at a base hospital in Belgium.

He called particular attention to the disappearance of tetanus, the treatment of infected wounds and the treatment of compound fractures as examples of the greatest advancement in military surgery. Following his scientific paper, he showed many lantern slides of interesting people and places in Belgium.

Resolutions were adopted by the society on the death of Dr. Frederick J. Will and Dr. William E. Vest as follows:

Dr. William E. Vest was so suddenly taken from us that we can scarcely realize he has gone. For thirty-eight years he enjoyed the liberal patronage of a wide circle of friends. His genial pleasant manner and unfailing courtesy was a tremendous asset in a business way and materially aided in cementing the friendships which grew about him without apparent effort on his part. It is a question whether any member of the medical profession in six short years had endeared himself to a greater number of people or was more sincerely mourned than was Dr. Vest. What greater testimony can any man have than he has so lived and labored that so great a number of people loved him and felt an irreparable loss in his passing.

The Polk County Medical Society extends its sympathy to the bereaved family, enters this testimony upon the records of the society, and your committee asks that a copy be furnished the family.

C. E. Ruth,
John H. Peck,
Ross Huston.

In the death of Dr. Frederick James Will, the medical profession of Polk county and the State of Iowa have suffered a loss that will long be felt by all those who knew him well.

Though always modest and unassuming, he was so conscientious and faithful that his real worth was quickly noted and appreciated, as has been abundantly testified in the important trusts placed in his hands and retained until failing health and death forced their surrender. He was universally respected and his long line of patriotic and honored parentage has, in his passing, no stain left upon its record. His faithfulness to duty as he saw it in home, profession and country can leave to his posterity only a noble inspiration to honest, faithful endeavor in every relation of life, and help bring to realization the highest good of man in a closer relation to the divine will.

We your committee ask that this expression be entered upon the permanent records of this society and a copy of the same furnished to the family.

Respectfully submitted,
C. E. Ruth,
John H. Peck,
Ross Huston.

The Story County Medical Society met at the Ames club rooms, April 25. Meeting was called to order at three o'clock by the president, Dr. R. W. Smith, of Roland. A large representation of the membership and a number of visiting physicians were in attendance. Dr. E. B. Bush, of Ames, read a paper on Prophylactic Medicine in the Army; Dr. Bush Houston, of Nevada, presented the subject, Scopolamin—Morphin Anesthesia in Surgery, and Dr. R. W. Smith had a paper on Training Hospital Corps Men.

Officers elected for the year at this meeting are: President, H. W. Barbour, Nevada; vice-president, J. G. Ghrist, Ames; secretary-treasurer, F. S. Smith, Nevada; delegate, P. Joor, Maxwell; alternate, D. M. Ghrist, Ames.

The annual meeting of the Worth County Medical Society was held at Northwood, Wednesday, April 11. Every physician in the county was in attendance. Officers re-elected for the year are: President, S. S. Westley, Manley; vice-president, L. G. Hewitt, Northwood; secretary-treasurer, E. H. Dwelle; delegate, C. W. Powell, Manley; alternate, S. S. Westley, Manley.

The Northwestern Iowa Medical Society met at the commercial club rooms, Sheldon, April 25. Under the presidency of Dr. F. P. Winkler, of Sibley, the following program was presented: Cystic Disease of the Chorion, J. G. DeBey; Physical Improvement of the Nation will Result from Universal Military Training, W. R. Brock; Preparedness, Wm. Jepson. Discussion—Workmen's Compensation Act as it Affects the Physicians, opened by Drs. Corcoran and Brackney. Moving Picture Clinic, Bone-Graft (Inlay) Replacing Portion of Humerus, Fred H. Albee; Hysterectomy for Pyosalpinx, Howard A. Kelly. A banquet at the Arlington Hotel was enjoyed after the program.

THE EIGHTH ANNUAL CLINIC OF THE COLLEGE OF MEDICINE

Iowa City, April 17, 18

The late meeting of the Medical Clinic given at the university marked an epoch at the university as relates to medical matters. The first notable thing about it was its change of name from the "Alumni Clinic" to the "Annual Clinic of the College of Medicine."

The previous clinics of December, 1914, and April, 1916, were practically similar to the one just held in being largely composite. The inclusion by law of the former alumni of the colleges at Keokuk and at Drake University in the Alumni of the University College of Medicine had enlarged the numbers so greatly as to warrant the former name of the clinic. But the splendid support of the profession at large throughout the state, regardless of colleges whence they came, made it entirely proper to open the clinic to every medical man in the state; hence its new name.

The record of attendance was also exceedingly gratifying having steadily increased in each of the three clinics named until that herein reported, at which nearly three hundred physicians from every

part of the state, except the extreme western, broke the record. Nearly thirty colleges reported in the registration by colleges, a marked increase over previous occasions. Next in point of numbers from each to the consolidated alumni of the college itself, Rush took the honor in number reported, nearly thirty registering. By counties at some distance, Kossuth and Webster of Northwestern Iowa, Scott and Des Moines of nearby counties, and Polk from the center of the state reported with large delegations. Counties still nearer would no doubt have reported in large numbers had not a rain the day previous made automobiling quite impossible.

To very briefly report the clinic, it may be said at eight o'clock Tuesday the seventeenth, Dr. Dean opened with a clinic in Ophthalmology, Otology and Rhino-laryngology, presenting the following cases for demonstration: two cases of stricture of esophagus, one case of carcinoma and one of tuberculosis of esophagus; one of tonsils and adenoids for operation. In addition to the foregoing, several cases were presented to specialists interested in their subjects, among them two additional cases of tonsils and adenoids for removal, also an operative case of carcinoma of the jaw. In addition to these, a large number of cases atypical in nature were presented to this special section for demonstration.

At the close of the clinic given by Doctor Dean, at nine-thirty the president of the university, Dr. Walter A. Jessup, was presented to the assembled visitors by the dean of the college. He held the closest attention from the outset as he visualized what seemed to him to be the essential elements of success in medical practice and education. He noted briefly the great advance made in late years along these lines by the medical schools of the best class. Touching this point, he felt sure he could safely declare he voiced the opinion of the profession of the state in the great pleasure it must afford all to know that the College of Medicine of the University had been from the first a member of this class.

Doctor C. P. Howard at ten o'clock presented a clinic in internal medicine, which many of the alumni present pronounced to be the most unique in its conception and plan of presentation they had ever witnessed. His cases were presented in four groups as follows: 1. Aneurism of Aorta. 2. Five cases of Nephritis of various types. 3. Two cases of Pernicious Anæmia. 4. Four cases of Arthritis of various types, from the acute articular form to Charcot joint.

At one P. M., Doctor Clarence Van Epps presented cases restricted to neurological conditions as follows: 1. Brain tumor. 2. Subacute combined degeneration of the spinal cord. 3. Multiple sclerosis.

Following the preceding clinic, Dr. J. B. Kessler presented several interesting cases of skin lesions which torment those who are called upon to treat them quite as much as the patients who present them. Among these cases were two of psoriasis, one of eczema, one of chancroid of upper lip, one pustular lues of the nose and upper lip, one bromide eruption-acne and fungating types, one of tinea barbae, deep and superficial types, and one of urticaria perstans.

At the close of the clinic on skin diseases, Doctor Prentiss read a beautiful tribute to the memory of Doctor E. F. Clapp who had died the week previous. Doctor Clapp was for many years in the early years of the college, the popular and much beloved professor of anatomy. The tribute was prepared by Doctor C. M. Hobby, his esteemed friend, contemporary, classmate, and colleague in the college during most of the time mentioned. Doctor Hobby and Doctor Heinrich, an early professor of chemistry in the college, it might be remarked, are the only living representatives of the faculty during its early days. Beautiful, large oil paintings of Doctors Clapp and Hobby were also presented by Doctor Chase to the college by the faculty and many of the earlier alumni of the college. With these paintings added to those of Doctor Shrader and Doctor Farnsworth, the bronze bust of Dean Middleton and the Peck and Robertson wards in the first pavilion of the university hospital named as memorials to these distinguished members of the first faculty of the college, its testimonials to its dead and living founders become complete.

The early part of the evening of the first day was devoted to one of the most helpful expositions of what its author, Doctor E. P. Joslin of the Harvard University Medical School, considered the practical way of treating diabetes. To all who are following his plan of treatment as presented in the text of his treatise upon the subject, it was most inspiring.

Following this masterly address, the usual "smoker" was given by the faculty to the visiting members of the clinic and students of the college. It was similar to those preceding it made up of contributions of the university glee club, the department of physical culture, and a glee club composed of members of the medical corps of the engineering company of troops late upon the southern border of the country. Refreshments and rousing responses by a half score of the alumni to calls for speeches closed the exercises of a full and happy day.

Wednesday morning brought with it an early clinic, eight to ten o'clock, conducted by Doctor W. R. Whiteis. A Cesarean section was first in order of presentation of cases. Following this, several interesting cases of pyosalpinx were presented, two of which were operative. The clinic closed with an operative case of pelvic abscess.

Doctor C. J. Rowan at ten o'clock presented a surgical clinic, grouping his cases much as in the clinic in internal medicine of the day previous, presenting his cases as follows: 1. Three joint cases. 2. Two cases of carcinoma. 3. A case of osteomyelitis, pyogenic in origin, resulting in paralysis. 4. Differential diagnosis between pneumonia and appendicitis. 5. A duodenal ulcer, for which a gastroenterostomy was done.

Following lunch, Doctor Beifield presented the following clinic in pediatrics: 1. Anemia, treated by hypodermic administration of iron citrate. 2. Three cases showing effects of tonsillar infection (arthritis deformans, mitral insufficiency, and nephritis). 3. Five cases of congenital syphilis in various stages from acute to late hereditary type. 4. A cretin as compared with a normal child. 5. Three feeding cases. 6. The dietary treatment of eczema.

Doctor Arthur Steindler presented a clinic in orthopedic surgery presenting the following cases: 1. Group of cases of congenital dislocation of hip, four demonstrations of same, and one operation. 2. Volkmann's contracture, one case operation. 3. Tendon sheath transference, three cases demonstration, one case operation. 4. Congenital malformation of femur, one demonstration. 5. Muscle transposition at elbow for paralysis, one case demonstration. 6. Bone implantation for defective radius, one case demonstration.

Doctor N. G. Alcock concluded the clinic with four demonstrations of post-operative prostatectomies. 2. Renal tuberculosis, three cases demonstrations. 3. One case of urethral stricture with complete retention.

Doctor Bundy Allen presented some interesting radiographic demonstrations after which the two days session was declared closed, having probably been the best of the three clinics mentioned in this report. One of the visiting surgeons indeed remarked to the writer, "Doctor, you must add another day." Another enthusiastically declared, "Make it a full week, Doctor, allowing a day to come and a day to get home. It was great!"

C. S. Chase.

MARRIAGES

Dr. Archibald McIntyre, of Walcott, to Miss Miriam S. Bliss, of St. Paul, at St. Paul, April 7.

Dr. Francis R. Holbrook, of Des Moines, to Miss Christine White Douglass, of New York City, at New York, April 9.

Dr. L. A. Coffin, of Farmington, to Miss Gretta Harmon, of Enterprise, Oregon, at Des Moines, April 19.

BIRTHS

Dr. and Mrs. F. W. Gessner, of Dysart, March 26, a son.

Dr. and Mrs. E. E. Stutsman, of Kalona, March 22, a daughter.

Dr. and Mrs. J. Robert Wright, of Knoxville, a daughter.

Dr. and Mrs. R. R. Harris, of Dubuque, April 18, a daughter.

DEATHS

John Edmund Howe, M.D., aged seventy; College Physicians and Surgeons, Keokuk, 1873; Fellow of American Medical Association; member of Iowa



JOHN EDMUND HOWE, M.D., GREENFIELD

State and Adair County Medical Societies; appointed a member of the Board of Parole by Governor Carroll in 1909 which appointment he held at the time of his death; practiced his profession at Greenfield since 1875 until recently; died at his home in Greenfield April 2 from heart disease.

Dr. William C. McGrath was born on a farm near Morrison, Illinois, December 26, 1862, and died at his home in Eagle Grove, April 5, 1917. He attended the county school near his home and after the death of his mother in the fall of 1881 the family moved to Morrison where he attended the Morrison high school. Later he attended the Northern Illinois College at Dixon, Illinois, and the Spring of 1884 he came with his brother, J. W. McGrath, to Iowa, where he spent the next two years on a farm near Rock Valley, Sioux county, and in the Spring of 1887 came to Eagle Grove where he resided until the time of his death.

Soon after coming to Eagle Grove he became interested in the study of medicine and entered the office of Dr. C. H. Morse as a medical student. In the winter of 1888 he attended the medical department of the Iowa State University at Iowa City. In the Fall of 1889 he went to Chicago and took up the study of medicine in the Chicago Medical College from which institution he graduated in 1891. Returning to Eagle Grove he became associated with Dr. Morse in the practice of medicine under the firm name of Morse and McGrath and took up the practice of his profession. This parternship continued for four years.

He was a close student and a tireless worker. He believed that the practice of medicine was a progressive calling and that any man who would be of the largest service to his patients must keep in touch with the latest discoveries in the science of medicine, and aside from reading the best medical jour-

nals published, he completed the following post-graduate courses:

In the Chicago Polyclinic July 2, 1900; a course in Ophthalmology, Neurology and Clinical Optics in 1905, and a course in the New York Post-Graduate Medical School in 1907. In 1914 he completed an x-ray course at Minneapolis and the following year a course in the Massachusetts General Hospital at Boston. It had long been his intention to continue the study of medicine in the universities of Germany.

On July 1, 1896, he was married to Miss Blanch M. Fort and the following year built the home on West Broadway where he resided at the time of his death.

Edwin Burchett, M.D., aged thirty-eight, University of Illinois, College of Medicine, 1903; Fellow of American Medical Association; Member of Iowa State and Wayne County Medical Societies; a practitioner at Seymour for fourteen years; died at the hospital in Centerville, April 14 from appendicitis.

John Buchanan Wilson, M.D., aged forty-five; Fellow of American Medical Association; member of Iowa State and Wapello County Medical Societies; a practitioner at Ottumwa; died suddenly in a hospital at Kansas City, April 20.

Frank D. Schwerdtfeger, M.D., aged twenty-nine; Northwestern University Medical School, 1911; a practitioner at Royal for the past five years, died at Mercy Hospital, Chicago, March 5, following an operation for osteomyelitis of the femur.

David Kline Bond, M.D., aged sixty-one; State University of Iowa College of Homeopathic Medicine, 1904; a practitioner at Waterloo for the past twelve years, died at his home in Waterloo, March 14, from uremia.

John J. McWilliams, M.D., aged fifty-seven; Rush Medical College, 1883; a native of Iowa; had been postmaster, also mayor of Charter Oak for a number of years; a practitioner at Charter Oak for thirty years, died at his home March 2.

CHANGES OF LOCATION

Dr. F. D. Walk, of Walker, has disposed of his practice to Wr. Walter M. Skallerup, of Chicago.

Dr. J. E. Payne, of Richland, has removed to Mt. Pleasant.

Dr. W. H. Green, of Farnhamville, has purchased the practice of Dr. L. F. Kepler, of Otho.

Dr. T. A. O'Brien, of Emmetsburg, will remove to Charter Oak.

Dr. W. A. Bates, of Neola, has removed to Plainview, Texas.

Dr. Gates M. Brown, of Arlington, has sold his practice to Dr. F. C. Sauerbry, of Bassett. Dr. Brown will locate in Ames.

Dr. L. T. Sidwell, of Glenwood, has removed to Ingleside, Nebraska.

MEDICAL NEWS

Dr. E. L. Bennett, of Eldora, will remove to Fresno, California.

Dr. Charles I. Fox, recently of Callender, has removed to Pella, where he has formed a partnership with Dr. C. N. Bos.

Dr. W. L. Bierring, of Des Moines, represented the Iowa State Board of Health, at a conference of representatives of the boards of health of the United States and Canada held in Washington, D. C., April 30 and May 1 to consider measures to be adopted in the present national emergency.

A. M. A. NEWS

The sixty-eighth annual meeting of the American Medical Association will meet in New York City, June 4-8 with general headquarters at Hotel Astor, Times Square.

Section Headquarters

Baltimore—Madison Avenue and Forty-third—Practice of Medicine, Preventive Medicine and Public Health.

Waldorf-Astoria—Fifth Avenue and Thirty-fourth—Surgery, General and Abdominal, Obstetrics, Gynæcology, Genito-Urinary Diseases and Orthopedic Surgery.

McAlpin—Broadway and Thirty-fourth—Diseases of Children, Nervous and Mental Diseases, Pathology and Physiology, Enterology and Proctology.

Manhattan—Madison Avenue and Forty-second—Pharmacology, Therapeutics and Dermatology.

Astor—Ophthalmology, Laryngology, Otology, Rhinology, Stomatology.

Railway Rate

The railway rates will be about the same as last year, $35 for round trip from Chicago, with differential routes returning, via Albany, Washington, Norfolk, Boston, or any other route desired, by paying a little extra.

Hotel Rates

The hotel rates as announced by the Committee on Arrangements, through the Sub-Committee on Hotels, of which Dr. Reginald H. Sayre, 17 West Forty-third street, is chairman, will be reasonable, ranging from $2 to $8 per day for two in room, according to kind of accommodations and those wishing reservations should write early to Chairman of Hotel Committee, the hotel of their choice, or the undersigned.

J. W. Cokenower, Chr. Trans. Com.

The Women's Medical Association of New York City is planning a banquet Wednesday evening, June 6, 1917, at the Hotel McAlpin for the visiting women physicians who expect to attend the meetings of the American Medical Association in New York at that time. Tickets $3.00, may be obtained from Dr. Mathilda K. Wallin, 616 Madison ave., New York City.

Liquid Petrolatum, Squibb

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A pure, colorless, odorless and tasteless mineral oil of the naphthene series of hydrocarbons.

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Liquid Petrolatum, Squibb, (Heavy Californian), is recommended to the medical profession for preventing absorption of bacteria from the intestine and for restoring normal bowel functioning.

It is the most viscous mineral oil on the market; which viscosity is true, i. e., natural, and is effective at the temperature of the inside of the intestine.

It may be administered in any quantities necessary. Its use does not form a habit.

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Mead Johnson and Co.:
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NEW AND NON-OFFICIAL REMEDIES

Since publication of New and Non-official Remedies, 1916, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Non-official Remedies:"

Styracol Tablets, 5 grains—Each tablet contains 5 grains styracol. Merck and Co., New York.

Tannalbin Tablets, 5 grains—Each tablet contains 5 grains tannalbin. Merck and Co., New York.

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The Journal of the Iowa State Medical Society

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PRESIDENT'S ADDRESS*

J. F. Herrick, M.D., F.A.C.S., Ottumwa

To be called by the patronage of the medical profession to preside over the deliberations of the Iowa State Medical Society is an honor never to be forgotten. It marks the most important point in the professional career of an Iowa physician, and makes the years of service performed, often under difficulties and often in a manner far short of satisfactory, worth while.

It is a truism that Iowa has the lowest percentage of illiteracy of any state in the Union, or we may say of any like area in the world. This educated and enlightened people, call for professional services above the requirements of any other community. The attainment of the profession in Iowa therefore must average very high. There are no large cities or no large medical centers in the state to attract those of international fame, nevertheless our state university and our prosperous and enlightened communities are drawing to them men worthy of the highest rank in the profession; such men alone can meet the requirements of an educated public. It places upon the profession of the state the honor of satisfactory service to the most enlightened people the world has ever known.

In past centuries medicine was buried in mystery. This was due in part to the limited number who were afforded the opportunities of a liberal education, and partly due to the reticence of physicians, and their disinclination to enlighten their patrons in medical matters. Even to this day there is something mystical about medicine, in the eyes of many; so much so, that to the average man medicine forms a vague and ill defined connection between the mystic world and this, our habitat. Hence the proneness of mankind to accept those fads and fancies based on fallacious theories, and to look for aid from the ignorant but mysterious mountebank or the unscrupulous charlatan. Hence also the failure to properly estimate the skill and knowledge of the true physician. Education and enlightenment tend to dissipate this mystical view of medicine and lead to a more rational understanding of the aims and efforts of the profession.

General enlightenment also begets the necessity of a profession so qualified professionally and equipped mentally as to be able to dispel the ignorance and clear away the superstitions which clung about medicine throughout the ages. The advanced position occupied by the profession in our community is not without its obligation. The community has a right to look to the profession as a guide in hygiene and sanitation; to expect of it that so far as possible it may be spared the suffering and sorrow incident to preventable disease. These results do not come automatically but require industry and well directed application.

The successful practice of medicine demands of its devotees, a life of unselfish toil and devotion. There is no royal road to knowledge and those who would secure distinction or maintain an advanced position must pursue the god of wisdom with indefatigable perseverance. The modern physician must be versed in the basic facts of physiological life and the laws which govern nature in her endless cycles of reproduction, growth, and decay. Without this knowledge it is impossible to detect a violation of these laws, or to detect a departure from the normal, congenital or acquired, either physical or physiological.

It may be well on this occasion to give a few moments to a consideration of what is the most difficult if not the most important part of medicine, and that is diagnosis. A correct diagnosis is the first requisite of successful practice and makes the greatest demands on the physician's skill. The best treatment known to medical science is more or less fixed and the requisite skill in application may readily be acquired. Not so however with diagnosis, each individual case calls for special consideration. Nowhere does the personal equation of the physician enter more than here, or does more depend upon his judgment. Carefully followed cases have demon-

*Delivered at the Sixty-Sixth Annual Session, Iowa State Medical Society, Des Moines, May 10, 1917.

strated that, in the work of even the most skilled, to whom all accessory means of accurate diagnosis are available, many errors are found. A judicious mind alone is competent to weigh the evidence discovered by examination and draw the proper conclusions.

To secure proper data for a correct diagnosis, the examination must be systematic and thorough. It should consider the patient as a whole and invoke all methods of study by which information may be gained. From the crude methods of olden times to the almost uncanny touch of the modern diagnostician is a long distance. It is difficult for us to realize ourselves the skill acquired by those who faithfully labor in this field, or the world of information open to them. Hasty superficial palpation may be misleading and certainly is not informing; but the deliberate use of the educated hand, when guided by intelligence, may develop most important information. Ausculation and percussion, as well as a study of the pulse and blood-pressure, yield a wealth of information either positive or negative.

The laboratory has in our times become a necessity. Through it we have learned of the almost unbelievable ramifications and manifestations of syphilis. A positive Wassermann reaction is often the ray of light that dispels the darkness. Again an examination of the blood, or of the secretion and excretion of the body, makes for a prompt and correct diagnosis. The x-ray is often of great value and the information afforded by it should not be lost in obscure diseases. It may give positive information in one case, and highly suggestive information in another; nor is a negative showing unimportant, since it is well to know what is not present. So through the various channels available to the modern physician, not the least of which is the *tactus eruditis* of our fathers, is the information gathered on which a diagnosis may be based. The diagnostician must possess the faculties of observation, and attention to details to a high degree as it is easy to pass lightly over most conclusive evidence.

The information thus gained should be made a matter of record, otherwise a great part of it will pass easily from memory and be lost. A carefully recorded clinical history with a clear and definite record of present conditions give the only safe foundation for a correct diagnosis. In no place can good records be kept as well as in the hospital.

Hospitals were built primarily for the housing of the sick, but they should afford their patrons not physical comforts alone, but should make available to them the most approved methods of treatment and provide for them the greatest possible security for their future health. To secure these benefits the hospital should possess not only a complete equipment including chemical, bacteriological and x-ray laboratories, but should provide a comprehensive system of records. The attending physician should take pride in these records. All material facts of the family and personal history of each patient, the physical findings as well as all information discovered by laboratory examinations are entered in the records. The temperature and pulse curves, the line of treatment pursued, and the termination of the case, are also matters of record. It is important that negative findings be as carefully noted as are positive findings. If possible this is more necessary in surgery than in internal medicine. The practice of recording negative findings tends to stimulate more diligent inquiry and search for other diseases than the one for which aid is sought. The information secured should be so systematically filed as to be available for ready reference. Facts buried in heavy bundles of bedside notes are of little value because it is only with great difficulty they can be consulted.

It is not in hospitals however that most of our patients are cared for. Many to whom hospital facilities are not available, must be treated in their homes. In these cases it devolves upon the physician to formulate a plan by which the records may be kept in his office. The keeping of records is not altogether new. It is related that from the seventh to the eleventh century it was the custom in Ireland to have in the house of every family a record book in which the physician treating any member of the family made entry of his findings, the diagnosis arrived at, the treatment prescribed, and the termination of the case. These records became in time a source of valuable information. That would probably be an ideal method as it made the record always available to any physician called. More practical however is the record in the hospital or physician's office. The labor entailed in keeping case records is amply repaid in the satisfaction of having the details of the history and examination for reference and in the more correct diagnosis secured.

When the examination has been completed and all the findings recorded in an orderly manner, it is the part of the diagnostician to correlate these findings and from them draw the proper conclusions. It is here the comprehensive mind is indispensable. It is necessary to see the patient as a whole and have in mind all the material facts of the patient's history and the information revealed by examination. These facts must

be compared and proper weight given to each, that a correct diagnosis may be reached. Native ability, in medicine as elsewhere, is a valuable asset. Most of us however have only average ability, which must be given every assistance by attention to details and by diligent study.

In conclusion may we not hope that the members of the medical profession of Iowa, by their diligence in study, their diagnostic skill and their success in treatment may raise our profession to a high plane, the equal in fact of the profession in any community, and thus justify the confidence placed in them by an intelligent and educated people. We have no large cities or large foundations to stimulate and support technical research. In the end however, it is the individual physician who treats the sick and to whom we should look for results equal to, if not the best, medical science can afford. In order to secure these results, however, we must become good diagnosticians; to that end I would recommend that we should labor diligently to make universal the habit of careful examinations, and the keeping in all our work of complete clinical records.

A matter of possibly minor importance, but which has occurred to me and to others of the Society, is the question as to the time of the address of the President. When men were, without previous warning, elected to the office of president of our State Medical Society, it could not be otherwise that the address should be delivered at the session of the Society following, and practically at the close of his term of office. Now, however, since the office of president-elect has been created, may it not be well to provide that the incoming president may address the Society on assuming office. That could be on the evening of the second day of the session following his election, or such time near the close of the meeting as may be determined upon. I would suggest that the matter be placed in the hands of a committee to report at the next annual session.

Further, I would suggest that a chart of the programs presented to the Society be kept in the office of the Secretary, which would show at a glance the subjects of papers, grouped either regionally or otherwise; that it may be easier for the scientific committee to avoid too much repetition from year to year and that their attention may be called to the fields of medicine which are being neglected. In this way, I believe the work of the Society; which should be to its members a postgraduate university, may be harmonized and directed so that the programs would have some connection and continuity in their matter and would bring the greatest benefit to the membership of the Society.

TUBAL PREGNANCY*

M. M. Ghent, M.D., St. Paul, Minnesota
Attending Gynecologist to the City and County Hospital, Bethesda Hospital et cetera

Tubal pregnancy is much more prevalent than we are wont to believe. Just off hand one would think that carcinoma of the uterus occurs much more frequently than tubal pregnancy, but on more careful investigation one will find that tubal pregnancy occurs about as often as carcinoma of the uterus. Of course tubal pregnancy is infrequent as compared to uterine pregnancy and that is probably why we think of it as being a rare disease. Tubal pregnancy is an acute surgical condition but usually seen first by the general practitioner.

To every one hundred operative gynecological cases there should be one or two cases of tubal pregnancy, but like other things tubal pregnancy seems to come in bunches. One may not see a single case for years and then run into three or four cases in a year. However long we may go without seeing a case, we must keep tubal pregnancy in mind in every pathological condition in the lower abdomen in all women of child-bearing age.

De Lee states in his text-book that the cause of tubal pregnancy is unknown. He also says that pregnancy occurs normally in the tube and that it requires from four to eight days for the impregnated ovum to pass through the tube into the uterus. Anything that will prevent the progress of the fertilized ovum will cause tubal pregnancy. Crossen gives as possible causes, mild salpingitis, adhesions, tumors of the tube itself, or tumors pressing on the tube, and malformations, and he quotes "Abel as agreeing with Freund that some of the spiral twists which are normally present in the tube in the embryo may persist to adult life and cause sufficient obstruction to lead to tubal pregnancy."

The following hypothesis is submitted for consideration. Let us look first at the comparative anatomy, beginning with the opossum. Anatomists tell us there are two vaginas with one tube emptying into each vagina. There is no uterus. With the muskrat there is one vagina with the tubes emptying into it at separate places, also no uterus, showing that the uterus as a receptacle for the growth of the young is not necessary. In the sheep there is one vagina, one uterus with two strong horns. The uterus is formed by the union of the two horns. In the sheep the horns are more prominent than the uterus. This is the

*Read before the Austin Flint-Cedar Valley Medical Society, Charles City, Iowa, November 14, 1916.

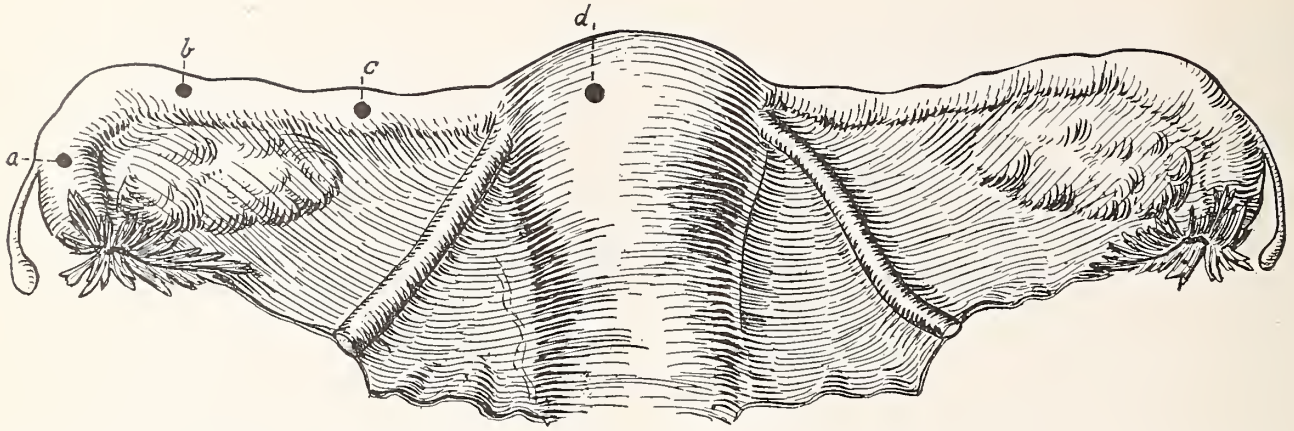


FIGURE 1—Normal Human Uterus (modified from Cunningham). O Fertilized Ovum, a, 1-2 days old; b, 3-4, c, 6, and d, 8 days old.

type in most of the lower animals. The fertilized ovum is carried in one of the horns to term and if there are twins, one in each horn. Note that the uterus is still a useless organ so far as carrying the pregnancy is concerned. In the monkey the uterus very closely resembles the human organ and the pregnancy is carried in the uterus. With the human embryo at the second to the third month the ducts of Muller come down and unite, forming the vagina, uterus and the tubes. The uterus remains bicornate for a few weeks and in rare instances remains bicornate throughout life. The cavity of the human uterus is always bicornate.

These pictures show that in the lower animals the pregnancy is carried in the horns and that

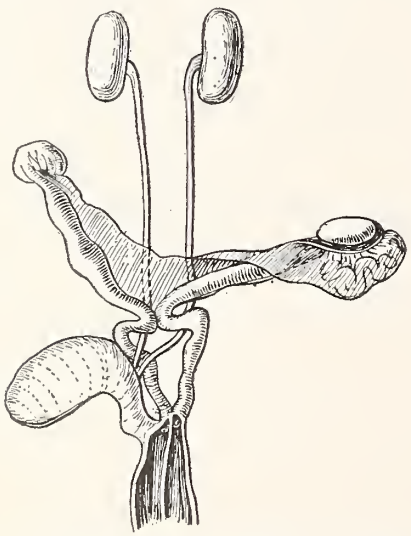


FIGURE 2—Female Generative Apparatus of Opossum (after a. brass).

the uterus plays no direct part in the process. The pictures also show that the human tubes and uterus at the second to the third month of embryonial development closely resemble the horns and uterus of the higher forms of the lower animals. The uterus is a late developed organ in the human form and it would be easy to conclude that it has developed at the expense of the horns, causing the fallopian tubes to become more vulnerable, therefore more likely to retain the fertilized ovum. Any weakened organ is more susceptible to disease or infection.

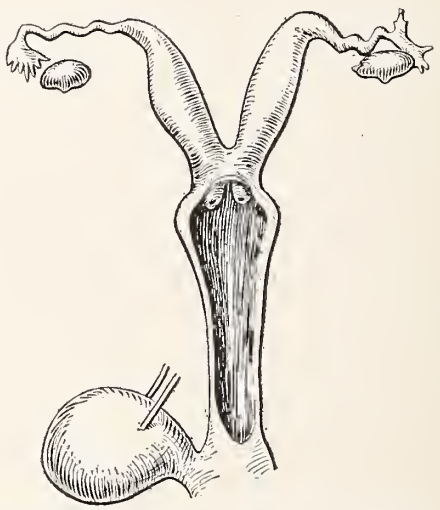


FIGURE 3—Female Generative Apparatus of Muskrat (Modified from Kingsley).

Therefore we are led to believe that light attacks of salpingitis in an already weakened tube due to the changes of evolution, to be the principle cause of tubal pregnancy.

The pregnancy is as likely to locate in one part of the tube as in another, but the nearer to the uterus the pregnancy is located, the worse the hemorrhage will be when the tube ruptures. Fatal or near fatal cases of hemorrhage are located just outside of the uterus. When the pregnancy is in the fimbriated end of the tube, there may be very little disturbance, the hemorrhage very slight after the rupture, and these are the cases that may recover without operation. If the pregnancy is located at either of the extreme ends of the tube, there may be a tubal abortion. Dr. Ernest Sterner, of St. Paul, had the good

fortune to observe a pregnancy in the inner end of the tube abort into the uterus. He had made a diagnosis of tubal pregnancy and had opened the abdomen, and while he was examining the tumor it passed into the uterus, and he recovered it from below.

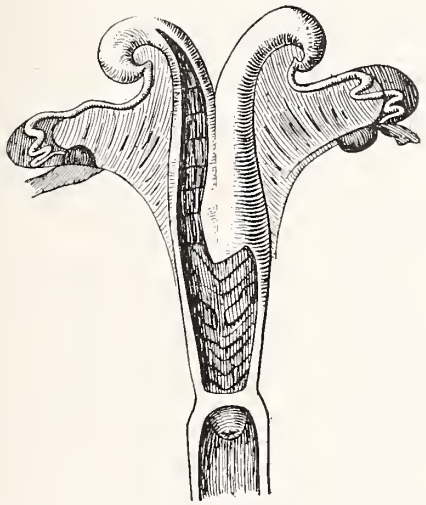


Figure 4—Female Generative Apparatus of Sheep (after Kingsley).

For about the first month the symptoms of pregnancy in the tube are the same as pregnancy in the uterus. As the pregnancy grows, the thin walls of the tube are stretched, causing some tenderness on that side. As soon as the placenta grows through the walls of the tube, the tenderness amounts to a pain. This pain is caused by distention of the tube and hemorrhage. The hemorrhage is slight at first, growing worse as the placenta grows larger. Simultaneously with this hemorrhage from the tube, there is a show from the vagina which is the first characteristic symptom of a tubal pregnancy. Any woman who is

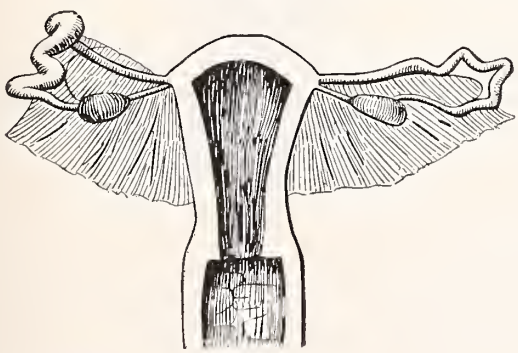


Figure 5—Female Generative Apparatus of Monkey (after Kingsley).

otherwise well, who has had the early symptoms of pregnancy, who has missed one period by two or three weeks, with localized tenderness and pain in the region of either tube, who has had a vaginal show lasting only a day or so, should be watched carefully as a suspected case of tubal pregnancy.

It is very seldom that the diagnosis of tubal pregnancy is made before rupture. Uterine abortion at about the sixth or eighth week is one of the hardest things to differentiate from a tubal pregnancy. The following case came under my observation some years ago:

This woman had missed one monthly period. She thought she was pregnant for she felt just about as she had with her other pregnancies. At the seventh week of the pregnancy, she began to have pains in the lower abdomen and soon started to flow quite profusely. This kept on for three or four days

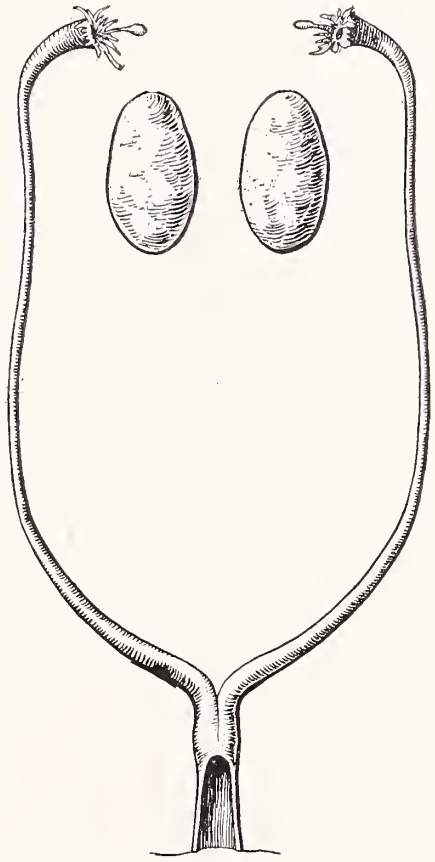


Figure 6—Female Reproductive Organs of Human Foetus at two months (Modified from Toldt Anat. Atlas).

before the family physician was called. Upon examination he made a diagnosis of incomplete abortion, and told her the uterus would have to be emptied. This was early in the morning. The physician called me to ask if I could come to help him at about eleven o'clock. That time was impossible for me, so he called a nurse on the case and told the woman we would be back at one o'clock. When we came, to our utter surprise we found the woman in a dying condition. The nurse said the patient began to grow worse about two hours before, which would have been just at the time we would have been emptying the uterus according to the first plans. The diagnosis of a ruptured tubal pregnancy was

now too easy. She was rushed to the hospital and operated, but she died after four or five days from peritonitis. To think how near we came to curetting this woman at the time of the rupture of the tubal pregnancy, has been one of my most unpleasant medical memories.

The following case will illustrate further how careful one must be in differential diagnosis.

Nearly three years ago I was called to see a woman who had been seized two hours before with a severe pain in the lower abdomen. She gave the following very typical history. She felt from the

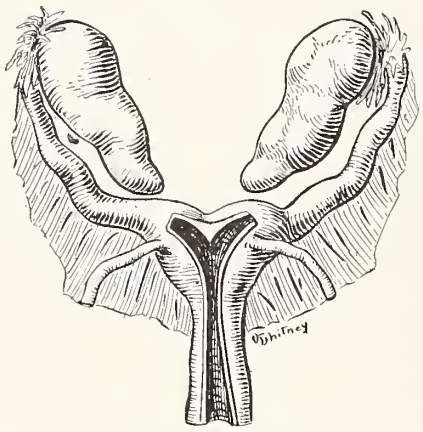


FIGURE 7—Female Reproductive Organs of Human Embryo at three months.

symptoms, that she was seven or eight weeks in a family way. She had missed one period, had had morning vomiting and her breasts felt larger and heavy. She had started to flow early that morning. On examination she was almost pulseless and very weak, but her mind was clear. The heart was beating about 150 per minute. Pulse at the wrist could not be counted. The pain was more to the right of the uterus. Bimanual examination showed the uterus to be retroverted and somewhat enlarged. She was too tender to make out any definite mass. Just a resistance. With this history and the findings, I did not hesitate to diagnose a ruptured tubal pregnancy and advised immediate removal to the nearest hospital and a consultation. When she was taken from a rather dark room to the ambulance, I noticed the lips were a little cyanotic, instead of white. The cyanosis of the lips should have led me to see at once that the weakened condition of the patient could not be due to a hemorrhage. With hemorrhage there can be no cyanosis. The lips are white or pale. At the hospital we had Dr. Robt. Earl see her in consultation. After a careful examination he diagnosed the case as one of poison. Then we elicited the following history. Two hours before I was called she went to the bath room and started to flow profusely. She returned to bed and her husband gave her a two quart douche containing 7½ grains of bichloride of mercury. The uterus was retroverted and the cervix was open. She had a miscarriage while on the toilet and when the douche was given, the poison entered the uterus where it was rapidly absorbed into the general system, and this was what caused the pain and the collapse. She died twelve hours after the douche was given and the autopsy confirmed the diagnosis of bichloride poisoning.

The diagnosis of tubal pregnancy at times is difficult or impossible, at other times it may appear too easy. Last winter a farmer called me in a great hurry to see his wife, as he thought she was suffering from a pregnancy outside of the womb. Upon arrival the patient said she had a pregnancy in the tube seven years ago and was operated upon. She thought she was seven or eight weeks along. She had had morning vomiting and had missed one monthly period. Her present trouble began two days before with pain on the right side of the uterus and a menstrual flow almost as much as the normal period. At first the pains came in attacks about thirty minutes apart but at the time of my examination the pains were coming about fifteen minutes apart and were exactly like labor pains. Bimanual examination showed the uterus somewhat larger than normal, with a painful resistance on the right side. The patient said the other tubal pregnancy was in the right tube, but her present tenderness was on the right side. Not wanting to be influenced by the patient's own diagnosis of a tubal pregnancy and the fact that the tube was supposed to have been removed on the side where

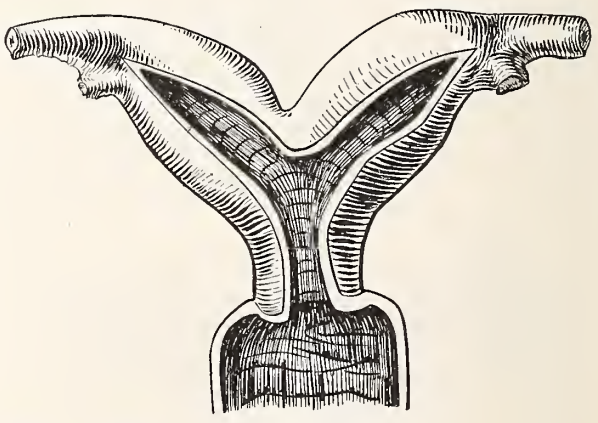


FIGURE 8—Bicornuate Uterus (from Crossen).

she complained of trouble, along with the history of pains which were exactly like labor pains, it was impossible for me to make a diagnosis. The diagnosis lay between tubal pregnancy and an abortion. There was no indication for an operation, unless there was a pregnancy in the tube. She was in the country. Here is what we did. A small pocket trocar was boiled and the cervix and posterior wall of the vagina were painted with the tincture of iodin. With a pro-

bang that I happened to have with me, I pulled the uterus well done into the vagina and with my finger, pushed everything away from the posterior wall of the uterus and inserted and trocar with cannula about one-third of an inch through the vaginal wall into the cul-de-sac of Douglass. Then I removed the stilet, pushed the cannula a little further into the cul-de-sac of Douglass, when out came fresh blood and cleared up the diagnosis. This is a perfectly safe procedure and can be done anywhere. Some recommend a large needle but that is more dangerous. If the patient is in the hospital, where assistance is at hand, one can do a vaginal section, but it seems to me the use of the trocar and cannula is simpler and easier and almost without risk. The patient was then taken to a hospital and operated upon. At operation we found a right sided tubal pregnancy. The left tube had been removed with the first tubal pregnancy, showing that the patient was mistaken.

It was a much mooted question some years ago whether these cases of ruptured tubal pregnancy with a severe hemorrhage should be operated at

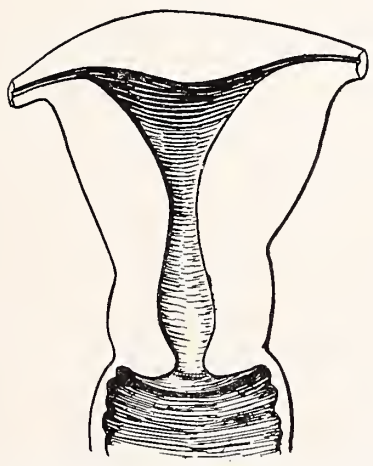


Figure 9—Diagramatic Representation of Cavity of Adult Human Uterus (Modified from Cunningham).

once or wait until that first severe acute depressing reaction is over. It was the consensus of opinion at that time that they should not be operated upon until they rallied from the shock. To my mind this is a mistake. Shock in these cases is due to hemorrhage just as almost all other cases of surgical shock are due to hemorrhage, and to stop the shock one must first stop the hemorrhage. Immediate operation will save cases that would otherwise die from hemorrhage.

The post-operative treatment is about the same as any other laparotomy. We must get as much liquids into the system as possible, by first giving an enteroclysis during the operation, when the loss of blood has been great and proctoclysis of warm tap water continuously for the first twenty-four to thirty-six hours after operation. Hot water and tea prepared in the way the patient likes it best is to be given in large amounts, as soon as it can be retained. Since we discontinued the use of cold water and chipped ice, we feel sure there is less disturbance from gas pains. Nourishment is the best stimulant. Give broths, albumen water, malted milk and milk after the first forty-eight hours, if it is tolerated. Pain for the first twenty-four hours after a laparotomy is due mostly to injury of the muscles. During this period the pain may be relieved by small doses of morphin hypodermically, 1/6 to 1/8 grains, not oftener than twelve hours apart. Pains after the first twenty-four hours are mostly due to gas in the stomach and bowels and should never be alleviated by morphin. Turpentine will relieve gas better than any other drug with which we are familiar. At the end of the first twenty-four hours, give an enema of one teaspoonful of turpentine to one pint of warm cotton seed oil. This is to be retained if possible. In two hours follow it by a Nobles enema. These enemas may be repeated every twelve hours, if necessary. A light hot water bag or an ice bag over the abdomen is generally very acceptable and should always be tried. No laxatives or physics of any kind are ever used before or after an operation. The advantage of this became apparent to me in those emergency cases such as tubal pregnancy and perforated appendicitis. The cases that had to be operated on in a great hurry seemed to get along better than the cases that were prepared for operation by giving a laxative or physic the night before. No one can take a laxative without feeling weaker afterwards. What do you think an athlete would say if his family physician wanted to give him a laxative the night before he was to play in a hard tournament He would refuse to take it, yet we ask people to take laxatives who are to take part in, probably the only tournament they will ever enter, the tournament of life. Discontinue laxatives and physics, give an enema the evening before and one the next morning and your patients will be stronger with less disturbance from gas and recovery will be easier and more uneventful.

Patients should be placed in the position which is most comfortable and be kept off the back as much as possible. In conclusion—

1. The ovum is fertilized normally in the fallopian tube and requires from four to eight days to pass into the uterus.

2. I believe that pathological changes and consequently tubal pregnancy are favored by the pre-

ceding changes of evolution, in the tubes and uterus.

3. The hardest thing to differentiate from tubal pregnancy is a uterine abortion.

4. Operate as soon as the diagnosis and arrangements can be made.

EARLY HYPERTENSIVE CARDIO RENAL VASCULAR DISEASE*

JOHN W. SHUMAN, M.D., Sioux City

Diagnosis—Cardio renal vascular disease has for a long time been regarded as one of the accompaniments of normal old age. It does occur in early middle life. I wish to interest you particularly in the early manifestations of this disease, that is, the early diagnosis of the trouble, also the treatment and management of the same by citing and discussing briefly a few illustrative cases.

We should diagnose this disease in its incipiency. If we do and the patient follows instructions, a premature old age and death may be postponed. In the early stage, the symptoms and signs are those of high pressure. A careful, painstaking and thorough examination of the patient will not fail to reveal "findings," namely, hypertension (high systolic blood-pressure), an enlarged left ventricle (at or outside the midclavicular line), nephritis (a disturbance in kidney function, albumin, a trace or more, casts, etc.) or changes of the eye grounds.

A number of cases are referred to the internist by the ophthalmologist, for if a thorough eye examination is made, changes are found which demand a thorough physical examination. These patients ofttimes complain of headache. The "nephritic headache" or headache of hypertension is typical. It awakens the patient (under elimination) and generally decreases by ten or eleven a.m. (increased elimination).

In all cases of hypertension it is a good rule to suspect the kidneys as the basic factor until we can prove otherwise. Nephritis is the cause of hypertension in a vast majority of the cases of hypertension. The caliber of the arterioles become lessened and it takes a greater than normal pressure to force the blood through them; as a result of this the left heart is overworked. When the myocardium tires, circulation of the blood becomes slowed and the elimination of toxines less than normal. These toxines irritate the brain cells. The irritated brain cells swell (edema or cloudy swelling) and, from the greater than normal pressure, headache is complained of.

Sooner or later, in most instances of this disease, the heart will hypertrophy. Just as long as the circulation in the heart itself is good and not impaired by coronary sclerosis and as long as this slowly developing chronic myocarditis has not advanced far, cardiac symptoms will not be in evidence, but if these conditions occur, or if the blood-pressure become so great as to damage the aortic valve or strain the left ventricle, symptoms rapidly appear; therefore the heart must be carefully examined and observed.

Finally, as the disease advances, if the patient does not die of uremia, acidosis or angina pectoris, symptoms of cardiac decompensation develop. As the heart fails, passive congestion or cloudy swelling of the kidneys takes place, and the chronic interstitial nephritis progresses rapidly, in which instance it is very difficult to tell whether cardiac or renal insufficiency is predominating. The more the heart fails, the more albumin appears in the urine; in fact there may be no albumin in the urine in the early stage, and the urine reported as "negative."

A complete urinalysis entails the twenty-four hours quantity, a physical, chemical and microscopic examination, and when renal insufficiency is suspected, a functional test of the kidneys. Let us give our patients every advantage.

As the heart fails, the lower becomes the blood-pressure, especially is this true of the diastolic. The more insufficient the kidneys, the higher the blood-pressure, especially the diastolic. If the swelling is in the pendant portion of the body, with the patient up and about, greater in the morning of the back, face, etc., it is the heart that is rapidly failing. If the swelling is general and there is headache, vomiting, with perhaps stupor and coma, the most serious trouble at this particular time is renal insufficiency.

As a routine in examination every patient's blood-pressure, both systolic and diastolic, should be taken, the latter is most helpful in diagnosing myocardial strength. The auscultory method is the only means by which we can detect diastolic pressure. More than one reading on the same and different days is ofttimes necessary to establish a correct reading. Do not attempt to guess a blood-pressure by palpating the pulse without the sphygmomanometer; it has been tried but never done.

We will have to know the disease much better before we can say just where the incipient stage ends and the later begins. I believe there is no exact dividing line. The time to get the case is when it is first presented for examination. This

*Read by invitation before the Cherokee County Medical Society, held at Cherokee, Iowa, November 28, 1916.

shifts the burden upon the physician where it rightly belongs. Nephritis is never primary but always secondary. Focal infection as a causative agent is a constant factor to search for; if found, it must be removed.

Case No. 1 must belong to the focal infection class (peridental abscess). You will agree that he was most surely an early case of hypertension. His is one of the many cases of focal infection in which I have found the blood-pressure to be higher than normal and to have witnessed the drop to normal after the cause (a focus of infection) was removed.

Case 1—C. J., dentist, consulted January 3, 1916, age twenty-five, complained of a "fullness in the head and aching all over." Father died of uremia, age fifty-four. Physical examination: left heart enlarged. Blood-pressure (s) 180 (d) 115-20 m.m. hg. Urine: twenty-four hour quantity 1000 c.c., alkaline 1010, albumin a trace. Heart: systolic murmur at apex, transmitted to axilla (mitral stretch). Rentgenoscopic examination of heart, left heart enlarged. Left second upper bicuspid abscessed. This tooth was extracted by John Schott, D.D.S., that afternoon along with another badly decayed root. January 15, 1916, his blood-pressure was (s) 148, (d) 110. Heart murmur not present. Urine: 1022, albumin, negative. February 28, 1916. Feeling fine, B. P. (s) 145 (d) 100.

The next was undoubtedly a more advanced but much younger case. She would belong to the nephritic group that pregnancy complicates and plays havoc among.

Case 2—Mrs. C. M., age twenty-one, referred by Dr. E. A. Jenkinson, December 11, 1913, following the emptying of the uterus as a life saving measure on account of severe eclampsia. She complained of "severe headaches in the morning which gradually decreased as the day advanced." Nocturia for several years. Physical examination: patient sweating, pulse 90. Second aortic sound greatly accentuated and left heart enlarged. Blood-pressure (s) 260 m.m. hg. Urine: twenty-four hours quantity 1500 c.c., albumin ¾ grams to the litre (Esbach) and many granular casts. Patient nauseated. Eye findings by Dr. W. J. Bussey. Both nerve heads appear swollen and "wooly." Retinal arteries reduced in size, not tortuous. Retinal veins show moderate engorgement.

Under treatment, observation made January 23, 1914, systolic pressure 190; urine showed a trace of albumin and a few casts. She had no headache. She returned to Dr. Jenkinson's care who on query November 27, 1916, stated as follows: "She had another attack of eclampsia five months later when her blood-pressure was higher than a Tycose could register. She recovered and he sent her South as she seemed much better during the summer months.*

*Died March, 1917.

Treatment—It would be well to prevent the actual development of this disease. When discovered, we must endeavor to slow its progress. There are times when it is advisable to lower a high blood-pressure. We must not forget that this blood-pressure is ofttimes compensatory. It is for the physician to diagnose whether the hypertension is compensatory or not. Many times when it is compensatory, the blood-pressure should not be lowered without due consideration of the symptoms and the patient's condition.

It is better to use no drugs in the early hypertensive case. Focal infection should be sought for and when found, removed. The hypertension should be regulated by the diet. Meat should be reduced to a minimum. The amount of exercise depends on the condition of the circulation. Graduated walking, hill climbing and golfing are good exercises for these patients. Mental and physical strenuosity must be cut out. Sleeplessness is to be combated, perhaps actually treated medicinally. Hot packs, electric light baths or body baking may be advisable. Obesity must always be combated by a regulation of the diet.

In obesity, stimulants to the appetite, such as spices, condiments, and even sometimes salt must be prohibited. Butter, cream, sugar and starches should be reduced to a minimum. In short, the food intake should be so regulated that a steady but slow loss of weight to the point desired is accomplished. The weighing of the patient every other day interests the patient and proves indisputably whether the diet slip has been carefully followed.

Case 3—Mr. H., referred by Dr. P. Burkland, Vermillion, South Dakota, May 15, 1916. Complained of "headache for five years." Worse in the morning. Physical examination: eye findings by Dr. W. J. Bussey; sclera of each eye rather rigid, tension of left eye slightly plus. Vision 20/20 both eyes. Both retina show numerous small round glistening white spots (hyaline) more numerous around each macula. Marked cupping of both dises, and moderate tortuosity of arteries.

Patient markedly over weight (255 lbs.). Left heart outside M. C. L. Blood-pressure (s) 200 (d) 120 m.m. hg. Urine: acid, 1022; albumin, negative. Microscopic: occasional granular cast and a number of hyaline casts. Treatment: diet, elimination and exercise, all in guarded doses, and the following observations made. June 18, 1916, weight 227¾ lbs. b.p. (s) 150-55. Feeling good and no headaches for two months. August 22, 1916, weight 198¾ lbs. b.p. (s) 140. No headache for three months. November 14, 1916, weight 184 lbs. b.p. (s) 135-37. No headache.

In the late case, cardiac insufficiency is encountered. It is best handled by rest. Rest in

bed takes a considerable load off of the heart. Bleeding as a therapeutic agent is ofttimes a valuable aid. If the diastolic pressure is not high, digitalis is valuable. If there is no cardiac dropsy, but other symptoms of heart tire, the "bleeding the patient into his own veins" is a good thing; for this the nitrites are valuable. In sudden cardiac weakness, provided digitalis has not been given in large doses a short time before, strophanthin (gr. 1/200) may be given intravenously once or at most twice at twenty-four hours intervals. If there is great sleeplessness as there often is, morphin is really "the finger of God." Baths, massages, etc., are contraindicated in these cases for they depress.

The next case was far advanced and is mentioned here to illustrate one of the finales (uremia or acidosis) which take a patient in spite of treatment.

Case 4—Mr. J. was examined with Dr. Lytze April 17, 1916. Present illness began with headache, drowsiness and nausea three days prior. Temperature and pulse had been increasing. Physical examination; patient stuperous. Pulse full and bounding. Left heart enlarged. Blood-pressure (s) 160 (d) 75-80 (cardiac failure). Catheterized and 4 ounces of urine secured which was acid, amber, 1030, albumin and granular casts in abundance. A diagnosis of uremia complicating hypertensive cardio renal vascular disease was evident. Treatment: 500 c.c. of blood removed (venesection) and alkali treatment instituted. Consciousness regained but relapsed in eight hours, subsequent bleeding had no effect. Patient died three days later.

If the patient has fragil arteries (arteriosclerosis), hemorrhage as a result of a fractured capillary is to be suspected. The flag of danger in the hypertensive case is generally headache. The motto in these cases is to keep the blood-pressure at or just below the point where headache (the "danger signal") is complained of.

Frances Building.

MOUTH INFECTIONS*

M. N. GERNSEY, M.D., Waverly .

Perhaps an apology for bringing such a subject before you would be in order. However, in the last few years and more especially since the impetus given to treatment of pyorrhœa alveolaris following the discovery of the amœba buccalis in the lesions and their seemingly easy destruction by emetine, the subject has been given increasing attention. Of most importance to the practitioner of medicine is the question of the remote effects of the open and hidden infected foci of the mouth. As you may have already concluded, this paper will deal only with conditions originating around the teeth.

The natural bacterial flora of the mouth are almost without number and consist of both pathogenic and non-pathogenic organisms. The non-pathogenic do not particularly concern us at this time. Of the pathogenic forms, those which belong to the staphylococci and streptococci group are of the most importance. Of these two groups the streptococci have been proven to be the most potential for harm, and have been shown by the experiments of Rosenow, and others, to have selective action in the invasion of the various tissues of the body.

Now pyorrhœa alveolaris is seemingly an easy condition to diagnose, especially in the late stages when the teeth are loose in their sockets and freely exude pus. Nevertheless, I believe that this condition has often been wrongly diagnosed by the general practitioner and treatment instituted when conditions were of a much simpler nature, namely a simple stomatitis or gingivitis I here have reference to the promiscuous use of emetine or some of its preparations, by some practitioners, under the idea that it is a specific. At this time I want to emphasize the fact, brought out recently in our medical journals, that the amœba buccalis is not the cause of pyorrhœa, and that while emetine may be a specific against the amœba, it is not curative for Riggs disease; that the use of emetine, either locally or systemically, is of little value unless associated with good local treatment by a careful dentist.

To get back to the subject. What are open foci of infection about the teeth? By open foci we mean those which have external communications or openings and are illustrated by carious cavities in the teeth themselves, stumps of decayed and broken teeth and those pockets formed under tartar accumulations, also fistulous tracts from apical abscesses. All of these are easily demonstrated by inspection. Hidden foci are those points or areas of infection not to be seen by ocular inspection. These may be active or seemingly quiescent. The active foci are those which cause the patient to seek active treatment until relieved. The seemingly quiescent or passive foci are those foci which do not cause the bearer any distress locally or only do so at intervals and in such a manner as to seldom cause him to seek treatment. The passive foci are areas of infection left at the apices of faultily filled root canals and we have it from the dentists themselves that the cause of most of these foci are conditions largely within that body. Often,

*Read before the Austin Flint-Cedar Valley Medical Society, Charles City, Iowa, November 14, 1916.

I am told, that the filling of the root canal properly is impossible, and in those cases if x-ray demonstrate the same, the tooth should be sacrificed or if possible a resection of the apex and currettement of the granuloma performed. But it all too often happens that faulty technique is to blame. Until the advent of the x-ray and the application of skiagraphy to investigation of conditions about the roots of diseased teeth, the dentist was in darkness most of the time. The x-ray only will demonstrate and reveal the hidden foci and their extent.

Formerly the tonsil received most of the blame for distant effects, then followed the various sinuses, chronic otitis, and now come the dental conditions. Of conditions which are said to follow focal infections about the teeth may be mentioned the following: endocarditis, arthritis, muscular pains and soreness, appendicitis, gastro-intestinal disturbances, glandular enlargements, neuropathies—such as: neurasthenia, melancholia and even some of the insanities.

The practical thing I desire to drive home is to investigate the condition of your patients' mouths always and for every condition for which you may be consulted. Some of you will say, "What? Investigate the patient's mouth for a crushed finger?" Certainly, as a means of prophylaxis for that patient. If you find that patient's mouth in a filthy condition, endeavor to have him or her clean it up. In some tubercular sanitoria, patients are required to have their teeth put in the best of condition, and since this rule has been enforced, a very material gain in the rapidity and number of improvements from the tuberculous condition has been noted. Also in some children's hospitals the prevalence of infectious diseases has been cut down over 50 per cent. in the first year of the instituting of dental hygiene and almost entirely eliminated during the second year. Crile has shown how physical injury of operation is augmented by fear and emotion, also that other conditions contribute, such as caries of teeth, pyorrhœa and abscess of teeth as well as accessory sinus infection, etc. In an article entitled "Obscure Factors in Sepsis," he says that if these conditions were investigated and corrected, if possible, before performing operations of choice, that far less injury to patient would occur from the trauma of the operation itself.

Shivdas, writing in The Practitioner, of London, reports cases of bronchitis and asthma relieved and apparently cured by treatment of pyorrhœa.

Drs. Dana and Gibney, of New York Academy of Medicine, report a case of arthritis of hip in a girl five and one-half years of age relieved by removal of carious deciduous teeth; also an arthritis in a woman sixty-four years of age with faulty root canal filling and alveolar abscess relieved by treatment of the mouth condition. They also cite instances of diffuse pains in joints and muscles, disappearing and recurring, relieved by appropriate treatment of Riggs 'disease. They also emphasize the necessity of examining other parts of body for foci of infection, such as the genito-urinary tract and rectum.

SOME OBSERVATIONS ON THE CONTROL OF TUBERCULOSIS*

A. E. Kepford, Des Moines

MR. PRESIDENT AND MEMBERS OF THE AUSTIN FLINT-CEDAR VALLEY MEDICAL SOCIETY:

I am under great obligations to the program committee of this society, for the privilege accorded me today. I cannot refrain from taking advantage of this occasion to express to the medical fraternity, my sincere appreciation for the constant interest and co-operation in the work which has been carried on in this state, against tuberculosis.

Great progress has been made, not only in the education of the people on preventive measures, but in the advancement of the medical profession in the early diagnosis of this disease.

So rapid has been our advance that the facilities for the care and treatment of tuberculosis are wholly inadequate. The demands are much in excess of our ability to hospitalize those who are asking such care.

Tuberculosis is an involved disease. It roots itself in tradition, social custom and industrial activities. It is primarily a disease of malnutrition. It can be potent only in a devitalized or ill-nourished body. Its ravages therefore, are more noticeable among the poor; the overworked, the underwaged, the underfed, the poorly housed and poorly clothed, are its easy victims.

In the submerged sections of our centers of population, in insanitary houses and overcrowded tenements, it lifts its black head with frightful mien. It ramifies to every aspect of our social institutions. It is indeed a disease of the masses. Entrenched as it is, it would be small wonder if a decade should pass without great visible signs of its repression. It should not surprise one if a generation of men should pass before any permanent reduction in mortality would be marked. It is a happy fact, however, that a great reduction in the death rate, from tuberculosis is already

*Read before the Austin Flint-Cedar Valley Medical Society, Charles City, Iowa, November 14, 1916.

noted throughout the United States and in Iowa.

There may be those who would have you believe that Iowa is pitifully behind many of the other states in aggressive warfare against tuberculosis. Such statements have appeared in the newspaper press. Let us not be alarmed at the assumption. Statistics are valuable when they lend force to an argument, but their potency lies rather in the conservative estimates than in extravagant statements.

Let me observe first, that at least three investigations have been carried on in the State of Iowa for the purpose of ascertaining the extent and prevalence of tuberculosis. They have been valuable in variable degrees. In 1904 the board of control of state institutions was directed by the Thirtieth General Assembly, to investigate the extent of tuberculosis in Iowa, and report to the next legislature. Of 3532 physicians addressed, 69 per cent. responded. The number of those reporting cases was 1397. The number of those reporting no cases, 1039. The whole number of cases reported was 4569, of which 18.4 per cent. was other than pulmonary. This report also gave the sex, age, occupation, social state, white or colored, and nativity. It was estimated then by the board of control, that there were 7,500 or 8,000 cases of tuberculosis in the state. The death reports on tuberculosis for 1900 would prove this to be about the correct number.

In 1910, Dr. Murdock Bannister was a member of the board of control. Through the department on tuberculosis, a census was taken among the Iowa physicians. Approximately 3,350 letters were sent out. Reports were received from 944, 37½ per cent. of whom reported no cases. This report also included age, social state, sex and character of the disease. It was estimated at that time that there was an appreciable change for the better in the tuberculosis situation.

In 1915 the department on tuberculosis sent out a stamped return card to every physician of the state, making this inquiry, "How many cases of tuberculosis have you treated within a year?" Three thousand three hundred and fifty doctors were addressed, of whom 1,402 reported. Of those reporting, 29 per cent. reported no cases. Forty-one per cent. of doctors reported 3,254 cases of pulmonary tuberculosis and 1502 other forms.

In every census it was necessary to allow liberally for duplications. I do not need to tell you of the ambulant nature of the tuberculous patient. He is a rambling genus. A liberal estimate of the whole number of emergent cases of tuberculosis in Iowa would be probably 8,000. Of course these are not all dying cases. It would be folly to assume that all need hospital care. Many of them are merely suspected cases. As you know, the incidence of tuberculosis is much greater than the death rate. If 1,500 hospital beds can be provided, and distributed according to population centers, we would be in a position to very largely control the tuberculosis in the state.

The control of tuberculosis involves at least three allied forces. The education of the public—the co-operation of the physician—and the bounty of the state. Sentiment must first be developed through education by which the people will have adequate knowledge of this preventable disease. The physician must diagnose the case early. The state must establish and equip well managed hospitals, with beds available for the consumptive population, or at least co-operate with counties by a system of subvention. The limited resources of private philanthropy are inadequate to cope with so expensive a disease.

Great advancement has been made by the medical profession in the diagnosis of tuberculosis. It is a matter of supreme satisfaction that the Iowa physicians have so generally made this disease a special study. For three years Dr. J. W. Kime lectured to the physicians on the diagnosis and treatment of tuberculosis. The state sanatorium has become a huge clinic; a sort of clearing house so to speak. It may be inferred that the Iowa physicians have not lagged in any particular along this line. Practically thousands of Iowa doctors have delivered lectures on tuberculosis on various occasions. Scores of them have addressed public and parochial schools, and the mortality reports gathered by the state board of health indicates that you are winning.

There has been a great decrease in tuberculosis throughout the registration area of the United States. A period of thirteen years shows a decline in all forms of tuberculosis from 201.9 to the hundred thousand population to 147.6 to the hundred thousand population. A decrease of fifty-four points in thirteen years.

While Iowa is not in the registration area, yet the death reports of the state board of health, together with other sources of information, would indicate a healthy decrease in our mortality from this disease.

In regard to the foregoing, Iowa needs a vital statistics law. The state board of health has a most splendid system of death reports. The efficient administration of the executive secretary, Dr. Sumner, secures a most excellent record of the persons dying throughout the state, but we have no adequate registration of births and marriages. To depend upon the assessor to discover all the babies that have been born, is ask-

ing more than human nature can possibly perform. If he does not hear it cry, he is apt to forget to ask whether there is a baby in the house. Such health measures should include compulsory reporting of tuberculosis and other preventable diseases.

To this end, I understand a measure is being prepared by the state health administration, to be introduced into the next legislature. It is to be hoped that all will join in helping to secure an efficient measure.

The state sanatorium is the most positive tuberculosis argument in Iowa. In fact any hospital for tuberculosis is a potential argument, but Oakdale with its state-wide opportunity, has served to focus the attention of the entire state on the helpability of this disease as nothing else could. When I say "helpability" it is because the word is elastic. Oakdale has sent out hundreds of graduates who have gone back to their neighborhoods and entered into the civic life and are now potential citizens. They have served as a stimulus for multitudes of others suspected or positively tuberculous to seek aid and comfort at the state sanatorium or elsewhere. Oakdale is only half grown. The equipment is not yet complete. There are needs which can be supplied only by ample appropriations. A medical building is desirable for the most efficient work.

I believe the time has come when the legislature should take some action regarding tuberculosis in cattle and hogs. That tuberculosis in dairy cattle constitutes an element of danger, no one familiar with the facts will deny. Dr. Parks, of New York City, has proven that about 8 per cent. of the tuberculosis in children is caused from the milk from tuberculous dairy cows. The incidence of tuberculosis among children from that source in this state is probably higher than Parks found. In any event the danger from this source is appreciable and should be recognized as an ultimate step to be taken in the overthrow of the white plague.

For several months I have been in conference with some of the packers of the state. They are interested from the economic point of view. This is an avenue of great value. It is a fact that in the last analysis, the state must recognize the economic loss from preventable diseases, especially tuberculosis. There are no more potential arguments that can be used than the dollars and cents argument.

Mr. Robert Sinclair, of the Sinclair Packing Company, Cedar Rapids, Iowa, told me only recently, that 2 per cent. of the hogs slaughtered at their plant, had to be condemned as unfit for food. It is well known that where the hogs are tuberculous, the cattle can be held responsible. Hogs following cattle readily become infected. I am particularly anxious that we shall have a thorough investigation leading up to wise and practical laws relating to this matter. That partial compensation for condemned cattle tested with tuberculin, will be a feature to be considered, there is no doubt. I have for the past ten years advocated such legislation in an attempt to create a healthy sentiment when the time should arrive for specific action. A number of prominent men are behind the movement, including Hon. Henry Brady, former speaker pro tem of the house of representatives, a man who has shown a keen interest in health legislation, effecting specifically the human race.

A suggestion has come to the department on tuberculosis from the state board of health of Michigan, which, it seems to me, is worthy of great consideration. The Michigan Board of Health has had tuberculosis clinics held in forty-three counties in that state, at which time suspected cases of tuberculosis were invited to come and have free examinations to ascertain whether or not tuberculosis was present. The results were most significant. It seems to me that if the medical profession is willing to co-operate in this matter, it would be an excellent thing to hold such clinics at such time as might be practicable. This department would undertake to organize the counties for such special examination, thus relieving the physicians of much routine work. I have had some correspondence with several counties which have been selected as typical, but so far have not been able to plan any definite program. I would like to have this matter discussed here, with the object of securing a consensus of opinion as to the advisability, and if so, a practical plan for carrying it out.

I take this time to say a word with reference to the magnificent work done by Dr. Scarborough. His long experience together with his studious habits and untiring energy, have eminently fitted him for his great task. Moreover, he has been able to associate with him, a staff of able assistants loyal to the institution and faithful in service. The co-ordination between Oakdale and the State University is significant and the Medical College of the University increases Oakdale's power to serve measurably.

The board of control is exceedingly anxious to do everything in its power, through this department, and to co-operate with every person or civic society to bring about the suppression of tuberculosis and I can offer to any neighborhood, the services of this department gratis, with the hope that great good may be accomplished.

More money could be used in the department for the extension of knowledge of this disease, but whatever funds may be available, no rapid fire methods of eradication can be adopted which would not be abortive. Tuberculosis is a disease which will require a generation at least to control. I am confident that within a reasonable time, with sufficient hospital beds for the dying cases, a death from tuberculosis will be as rare as a death from small-pox is today. Do not misunderstand me. There will be cases of tuberculosis, but they will be detected so early, and the facilities for their care will be so abundant, that they will not die, and then gentlemen, preventive medicine will have outgeneraled the captain of the men of death.

DIABETES AND THE PRACTITIONER*

DAVID M. BERKMAN, M.D., Rochester, Minnesota

In an attempt to determine the amount of treatment, and in some measure place the responsibility for the faulty treatment of diabetes in general practice, the histories of one hundred consecutive cases of proved glycosuria were analyzed. There were fifty-four males and forty-six females. Grouped in decades in respect to age they were as follows:

Decade	1	2	3	4	5	6	7 and above
No. of patients	1	4	6	11	21	32	24

Thus it is seen that the occurrence of diabetes steadily increases with each decade up to the sixth, when it reaches its maximum. This may be explained in two ways: First, undoubtedly diabetes is initiated most frequently in the fifth and sixth decades. Second, it is during this period that with beginning deterioration of general health the greatest number of persons report for general examination. It is astonishing that the occurrence does not drop more decidedly following the sixth decade, as the rate of life persistence drops appreciably and increasingly. Furthermore, fewer persons in this period think it worth while to report for examination. Twenty-two patients in the series were suffering from the more or less acute or rapidly progressive type of the disease. Their average age was thirty-seven years; the oldest was sixty-eight. The other seventy-eight had the more chronic type characteristic of diabetes in middle and later age.

Forty-one patients had no previous knowledge of glycosuria. Of these, thirty-one gave more or less indefinite histories, while ten gave histories unmistakably characteristic of diabetes. It could not be estimated with any approach to accuracy how many of these forty-one patients had had previous examination by one or more physicians. However small this number may be, it is too large.

Fifty-nine patients had previous knowledge of diabetes varying from a few weeks to ten years. In seventeen instances there had been no effort at dietary treatment although several patients had been given "medicine to cure diabetes." Of the forty-two cases in which treatment had been instituted, twenty-one patients had made more or less successful efforts to stick to the diet and follow directions. The other twenty-one had either dropped treatment entirely or lapsed into an inadequate desultory type of dieting, evidently futile. Clearly the faults in treatment may be summed up as follows:

1. Lack of universal routine urinalysis. Glycosuria can be discovered by one of the simplest and most easily performed laboratory tests ever devised, namely, the Haines test. Urinalysis is well taught in every reputable medical school in the United States.

2. Lack of co-operation of physician with the patient after the diagnosis has been established. Physicians are apparently reluctant to devote sufficient time and thought to the purpose of establishing a diet at least approximately suitable. So often the patient with diabetes is told that he must avoid sugars and sweets, and that nothing further can be done. The patient, considering himself incurable, becomes completely discouraged, and sits down to await the end with as much comfort as possible.

3. Lack of co-operation of the patient with the physician. With very few exceptions this is directly due to the reasons indicated in the preceding paragraph, or to failure on the part of the physician to impress his patient with the fact that although from one standpoint diabetes is an incurable disease, in a large majority of cases it is so controllable that life may be indefinitely prolonged in comparative comfort, and distressing crippling sequelæ such as gangrene, optic neuritis and cataract, may be frequently avoided.

I would mention here that juvenile diabetes, while a grave condition, is not always necessarily fatal. Riesman reports cases of a type with low glycosuria, high tolerance and mild symptomatology, which responded to diet very gratifyingly.

In the decades in which diabetes is most frequent, the greatest and most lasting results may be obtained by the maintenance of a proper diet. This is a most pertinent and significant fact. During recent years, advance in the therapeusis of diabetes has been given great stimulus by two

*Read before the Hardin County, Iowa, Medical Society, December 17, 1916.

brilliant investigators—Allen in the experimental field and Joslin in the clinical.

Joslin's work has been especially acceptable to the practitioner because it has provided him with diet tables, food values, and a working knowledge of their application. Allen's valuable contribution has been working out the safety, practicability and great value of starvation treatment, which was conceived, attempted and discarded many years previously.

After the diagnosis has been settled it is necessary to secure the absolute co-operation of the patient by carefully educating him in the theory and essentials of his treatment. The severity and gravity of the case should then be carefully estimated so that abrupt changes in diet may not precipitate serious consequences. With attention to these details, the urine is rendered sugar free as rapidly as possible. In accomplishing this, forty-eight hours of starvation are exceedingly efficient. During starvation, water *ad libitum* is allowed, also bouillon or clear meat broths, the use of salt being encouraged, and small amounts of whiskey if desired. In doubtful cases Joslin advocates a prestarvation period of several days to a week or two, during which time fats and oils are first subtracted from the diet, and afterwards the carbohydrates are diminished. Starvation is then begun. Following the starvation the urine will usually be found sugar free. There should then be instituted a mixed protein and green vegetable diet, low in fats and small in amount. Tolerance may be established by gradually adding known amounts of a uniform carbohydrate-containing food until sugar appears in the urine.

From here on, the purpose becomes two-fold: First, to raise tolerance as much as possible by keeping well below the tolerance threshold. Second, to maintain nourishment, providing as acceptable and varient a diet as possible. This is readily done with standardized food tables, many of which have been published. During the period of observation, needless to say, frequent urinalysis is imperative. After the period of observation has been completed and tolerance established, it becomes necessary to create a diet suitable for that particular patient, on which he must exist until future developments give cause for a change. It has been my own experience that a steady diet, day after day, is not only monotonous but also apt to lose its initial safe relation to tolerance.

In its place we have used a routine week's cycle, initiating it with one day of starvation followed by one or two days of rather strict diet, and ending it with at least one day of fairly liberal diet. This scheme is open to many variations and is especially applicable to the use of an oatmeal day. It also has the advantage of being more acceptable to the patient for long periods.

If the patient has been thoroughly impressed with the importance of his treatment, he will, on his own initiative, report at intervals for urinalysis and any necessary alterations of diet.

The question as to whether or not the patient should be taught to test his own urine, must be settled according to the merits of the individual case. There are advantages and distinct drawbacks. Patients with strong nervous tendencies should not be allowed to test their own urine. The reason for this is self-apparent. Fright, shock and nervous excitement undoubtedly play a role in the causation of diabetes.

In Joslin's most recent work, he has compiled an interesting series of statistical records which, taken as *prima facie* evidence, seemingly show that diabetes is on the increase. However, their probable meaning is that urinalysis is becoming more common and that greater numbers of persons are coming for examination. This fact at least is clear: Diabetes is prevalent in all parts of the civilized world. Its presence can be neither evaded nor ignored. Only in small part can it be treated by the sanatarium or the specialist. Let us face the fact, therefore, that the responsibility for the diagnosis and treatment of diabetes rests with the practicing physician, who would do well to equip himself to the best of his ability, to cope with this really most amenable condition.

Males, 54; females, 46.

Decades	1	2	3	4	5	6	7 and above
Number	1	4	6	11	21	32	24

Acute type 22 patients; average age 37 years

No previous knowledge of glycosuria, 41
- 31 no diabetic symptoms
- 10 definite diabetic symptoms

Previous knowledge of glycosuria, 59
- 17 no treatment
- 42 treatment
  - 21 maintained
  - 21 not maintained

Depreciation of general health due to diabetes, 48
General involvement of nervous system, 9
Definite changes in eyes, 6
Gangrene, 1

THE SIGNIFICANCE OF CORPUS LUTEUM*

C. O. Epley, M.D., La Porte City

The subject for this paper is not a new one, but it is of very much concern to me on account of the relation the corpus luteum has to the menstrual cycle of womanhood.

*Read before the Austin Flint-Cedar Valley Medical Society, Charles City, Iowa, November 14, 1916.

It is something we should know more about; and I will endeavor to bring up the different phases of the subject that we may more clearly exchange our views and cast in our experiences.

The corpus luteum, as found in the ovary of human and lower mammals, is the result of certain physiologic changes which take place in the ovary during menstrual life.

It results from the graafian follicle. The graafian follicle develops the ovum, and after escape of the ovum, the follicle becomes closed again and filled with hemorrhagic material. This then becomes organized from the vessels of the theca to form the corpus hemorrhagicum.

The corpus hemorrhagicum undergoes certain changes producing large yellow cells (lutein cells) and connective tissue. The origin of the lutein cells is thought by many to be from the stratum granulosum. This is the latest accepted view, varified by Emil Novak in his recent article in the Journal of the A. M. A., Vol. lxii, No. 18.

By degeneration and absorption the corpus luteum loses its yellow color and is then known as the corpus albicans which finally is also absorbed.

Corpora lutea are divided into true corpora lutea (corpora lutea vera, or corpora lutea of pregnancy) and false corpora lutea (corpora lutea spuria). In the former the ovum has become fertilized and in the latter the ovum has not become fertilized. Their structure is similar but the true corpus luteum, or luteum of pregnancy, is larger; and both it and its corpus albicans are slower in passing through their retrogressive changes; thus remaining much longer in the ovary for absorption.

It is now generally conceded that the corpus luteum is a gland having an internal secretion. Fraenkel believes that it has some influence in preparing the uterus for the implantation of the ovum, and in favoring menstruation whenever the ovum is not fertilized.

Out of seventy-two thousand ova in the human ovaries, only a few hundred ever reach maturity. The other follicles retrogress to form atresia follicles, which at times produce the atresic cysts.

In 1911 Robert Meyer (from the Gynecological Department of Johns Hopkins Medical School) showed that the corpus luteum like the endometrium passes through certain stages corresponding to the various phases of the menstrual cycle.

Dr. Emil Novak (Baltimore), in his recent article (in the Journal of the A. M. A.) gave account of his findings in 137 cases, in 102 of the cases both ovaries together with the uterus had been removed. These were carefully gone over and dissected and the structural changes noted. The corpora lutea were not always found on the surface but perhaps imbedded in the substance of the ovary with the full characteristic appearances of mature luteal bodies.

He observed that the corpus luteum undergoes changes from day to day. Out of his series examined, twenty-four corpora lutea were classified as mature, and the menstrual histories of these cases showed that the operation had been done at periods varying from eighteen to twenty-seven days of the menstrual cycle. This mature state corresponds to the time when the endometrium is preparing itself for menstruation.

What significance then has the corpus luteum? During menstrual life, lutein tissue in some form or other is to be found in the substance of the ovary. In very young ovaries the corpus luteum is not to be found, neither can it be found after menstrual life.

The pituitary, thyroid and superrenal glands all have their internal secretions and have to do with the physiological processes of life. It also has been proved that the ovary and testicle give their internal secretions essential to normal womanhood and manhood.

That the corpus luteum is the controlling factor in menstruation, is quite evident from past observations and experiments.

In reviewing this subject in Forchheimer's therapeutics, Fishera speaks of the relation of the ovaries to the hypophysis. He states that the hypertrophy of the hypophysis which occurs in animals after removal of the ovaries, may be checked by the administration of ovary. This suggests that ovary might be of value in cases of dyspituitarism.

Moffitt reports a case having obscure symptoms of dyspituitarism which improved markedly under ovarian therapy; the indefinite nervous symptoms disappeared and menses became more nearly normal.

Andrews and Einhausen recommend the uses of ovarian tissue to combat the disturbance of natural and artificial menopause.

The attacks of giddiness, trembling, palpitation, flushes, sweatings and other nervous and vasomotor disturbances which may occur frequently through the day, were reported to be much less frequent and severe and in some cases entirely ceased. The best results from its use in post-operative menopause is especially in young women, relapses occurring after stopping treatment. In some cases negative results are obtained. Saalfelt, reports benefit in many skin cases; as (acne, eczema and prurigo) occurring

during menopause. It also has been found of value in certain cases of acne in girls at the age of puberty. Results in amenorrhea and dysmenorrhea have not been encouraging. More favorable results have been obtained in amenorrhea with chlorosis. Fraenkel reports more or less favorable results in 91 per cent. of 96 cases of disturbances of menopause. The drug had no effect in dysmenorrhea, irregular menses and in intoxication of pregnancy. Maits reported favorable results in osteomalacia, disturbance of natural and artificial menopause and in the hypofunction of the infantile uterus. Recently it has been especially recommended in cases of amenorrhea and scanty menstruation. It is said to markedly increase menstrual flow and prevent the nervous symptoms resulting from their functional deficiency.

Dr. John C. Hirst (of Pennsylvania University School of Medicine) says:

> My use of corpus luteum extract in the nausea of pregnancy is based on the presumption that there is more than a coincidence between the formation and disappearance of the corpus luteum of pregnancy and the cessation of the nausea.

He thinks it not unreasonable that enough corpus luteum is absorbed in early pregnancy to account for the disappearance of the nausea. As explained above that the corpus luteum is usually fully developed from eighteen to twenty-seven days after the ovum is expelled, its absorption therefore, would occur the weeks following maturity.

Dr. Hirst uses corpus luteum extract intramuscularly in 1 c.c. doses daily as long as symptoms demand. He thinks that larger doses might be better. His experience in five cases of nausea in pregnancy was 100 per cent. successful. In one case, however, he attributes the success to neurotic conditions, inferring that it might be psychical.

Landsberg thinks it justifiable to recommend corpus luteum extract in profuse uterine hemorrhage occurring especially at puberty. He treated seven cases in that way and in every one the bleeding stopped. One c.c. was injected hypodermically every other day for six or twelve times.

A case is reported by H. R. Elliott (Journal A. M. A. No. 5, 1914):

> Patient married woman aged twenty-seven with boyish figure, narrow hips and undeveloped breasts. She was examined by a gynecologist and an infantile uterus was found. She was told that she could have no children. A trace of menstruation occurred three or four times, but nose bleeding was free at times. She was given extract of luteum tablets three times a day for a week; then two tablets twice daily for another week; and this two weeks administration repeated. Menses appeared within two months. The patient's form seemed to round out, but she became discouraged and gave up treatment. Some months later she renewed it; the boyish figure changed to normal woman's, and pregnancy with uneventful delivery followed.

The unsuccessful treatments occurring with the use of corpus luteum may be due to the form in which it is administered or probably to insufficient dosage or wrong selection of cases. I have used the corpus luteum for but a few months.

> In one case a woman thirty-three years of age, had her last menses December 12, 1915. She suffered no difficulty until January 16, when she began having nausea. In February, 1916, she would have headaches, severe nervous symptoms with cramps and backache as if she would abort. She received different remedies with little result. On May 3, I began giving corpus luteum in 2 gr. tablets, two tablets before meals and at bed time for from seven to ten days. She experienced noticeable relief. The symptoms were all less severe. From then on I gave her either dessicated corpus luteum in 5 gr. capsules t.i.d. or two 2 gr. tablets q.i.d. for one week beginning on the date for her regular menstrual periods. This carried her on quite successfully with lessened nervous symptoms and back pains until she was delivered.
>
> A second case, woman aged forty, had severe ovarian neuralgia and was exceedingly nervous. She had been having nervous symptoms of menopause before this. Sedatives did not avail. I gave corpus luteum in 5 gr. capsules t.i.d. for one week. Three months later she was given ovarian substance in tablet form, two tablets every three hours for a week. After taking this treatment the nervous symptoms greatly subsided. She still has her menses but feels much better.
>
> In a third case, a demented woman aged twenty-eight had not flowed since her last confinement which had occurred seven weeks previous, and her baby was artificially fed. One c.c. of the extract of corpus luteum was injected hypodermically daily for four days. Menses began and the physical and mental state slightly improved. Treatment was discontinued however on account of the bad prognosis of the case.

The conclusions, which I draw from this brief study of the subject are that corpus luteum as a therapeutic agent has various fields of usefulness in certain cases of menstrual disorders. Whenever it can be determined that the patient lacks the internal secretions coming from the functionating ovary, I believe that corpus luteum, in dessicated or hypodermic ampule form, is indicated.

Five gr. capsules of dessicated luteum t.i.d. or 1 c.c. of the extract once daily hypodermically. This to be continued several days as symptoms indicate or periodically every month until normal conditions are attained. The best way of administering corpus luteum is still perhaps uncertain. The hypodermic or intramuscular form seems to give quicker action and perhaps is more certain. That good results can be obtained from ovarian substance, which includes the lutea and other ovarian tissue together, is also evident, but larger doses are necessary.

The dessicated form put up in 5 gr. capsules seems a convenient form for common use and should be taken from the ovary following pregnancy. Perhaps the most specific indications for its use are in—

1. Profuse menstruation in puberty.
2. Artificial and natural menopause when disturbances occur.
3. Amenorrhea and sometimes in dysmenorrhea.
4. Nausea of pregnancy.
5. Nervous symptoms of pregnancy.
6. Infantile uterus.
7. Threatened abortion, where infection and anatomical defects are not present.

And the probable indications are:

1. Acne, eczema and prurigo occurring at the menopause.
2. Acne with chlorosis accompanied by menstrual disorders in puberty.
3. Dyspituitarism.
4. Osteomalacia.

There is still much to be found in regard to this subject, but I believe that if it is rightly used, many perplexing cases can be benefited.

SOME OBSERVATIONS IN ANTERIOR POLIOMYELITIS*

F. A. HENNESSEY, M.D., Calmar

In view of the fact that a great epidemic of infantile paralysis has been sweeping the East the past season, and knowing that in the past, it has usually appeared in the Middle West and the Western states the year following an epidemic in Eastern states, it seems timely that at a meeting of this kind a review of known etiology, pathology and symptomatology in connection with our own personal observations, might be the means of recognizing and preventing in a measure a great spread of this disease in our section of the country in 1917.

Etiology—Probably of the many early investigators, Wickman, of Sweden, by his studies accomplished the most in discovering an abortive type of this disease. This discovery did two things, it explained epidemics that occurred in Sweden in 1905 and 1906 and stimulated research work, as a result of which at the present time the causative agent seems fairly well determined as a filtrable virus, with a streptococcus of variable size, depending upon culture media and absence or presence of air as a modifier. This virus is very resistant to glycerine; in a 33 per cent. glycerin it is fully virulent after over 200 days. It stands cold well, retaining its virulence after being frozen for eleven days. It is killed after heating for half an hour at 55 c. It is not killed by drying, a possible explanation of number of cases during dry and dusty season.

Transmission by insects has been suspected by some observers and Rosenow has demonstrated that it can be transmitted from one monkey to another through bite of stable fly. In connection with this transmission by insects, it seems to me that the possibility of a protozoan cause should not be lost sight of even though investigations up to date of supposed microorganism indicate. "The cultural conditions are those that apply more particularly to the bacteria."

Pathology—The elective affinity of the virus for the nervous system on the one hand and for the lymphatic system on the other, makes a study of pathological changes in these parts interesting. The infection spreads through the perineural and perivascular lymph spaces and probably the rich blood and lymphatic supply of anterior horns is reason the cell bodies located here are always attacked.

Under the microscope the histological changes are much more extensive than the clinical symptoms would indicate. The most characteristic change is the marked cellular infiltration of the walls of the vessels, which radiate from the surface of the white matter inward; this infiltration is in lymphatic spaces between media and adventitia.

The gray matter appears about same as white and the meninges are inflamed and infiltrated with cells largely lymphocytes; in the meninges this process is confined chiefly to lumbo-sacral region.

The central canal or contents in a large per cent. of cases shows no changes and when it occurs it is around spinal roots and posterior root ganglia. The efferent nerves undergo a degeneration secondary to cord changes but no positive evidence has been produced to show that nerves proper ever go through primary changes of the cord.

*Read before the Austin Flint-Cedar Valley Medical Society, Charles City, Iowa, November 14, 1916.

Symptoms—It has an incubation period of from five to ten days; the child shows signs of an infection often taken to be tonsillitis or influenza. There may be vomiting, diarrhea, slight fever, rapid pulse, sweats, mental dullness and sometimes a rash: at first it may show signs of meningeal irritation, with rigidity of neck and a general hyperesthesia. Uusually there is a low white count and occasionally a leucocytosis. At this time cerebrospinal fluid shows few changes other than lymphocytosis and increased pressure.

In from one to seven days the paralysis begins; in spinal form it is noticed in one leg or arm, or in two or three extremities at once. This paralysis assumes its greatest development at once, covering its greatest area at the time of its first appearance. In the abortive forms no marked paralysis occurs, even though all symptoms mentioned previously are present. It is now believed by investigators that one-third of all the infections are abortive forms.

After some two weeks, repair starts and lasts for from one to two years, the paralysis remaining only in groups of muscles where reaction of degeneration was most marked. Later on as a result of atrophy due to degeneration, contractures develop in antagonists of paralyzed muscles, causing club-foot, flat-foot, etc. The bones remain backward in development and spinal curvature is not uncommon.

During the past year while the great epidemic of this disease has prevailed over the country, some interesting facts have come under my observation, in cases of previous epidemic that live around our community.

In view of the supposed cause and infectious nature of this disease, in about fifty cases where I was able to obtain a fairly accurate history of the cases, there was only one case in a home so far as the medical attendant was able to determine, and in nearly all these homes there were several children, all in close contact with the patient at almost all times. I believe this is the general experience of all practitioners, allowing for an occasional family where more than one may have been afflicted. These observations bring to my mind a few questions. If the spread of this disease depends on human contact, why does it prevail more in summer than in winter? Is the immunity of some children due to earlier light and unsuspected attacks? And what is the period of time over which a case may continue to spread infection?

The general opinion seems to be that the time of spreading the infection is the early days or hours of the attack, no matter what form it assumes. Therefore I believe all general practitioners should be familiar with signs, symptoms and all means we have at our command in order to make a diagnosis in pre-paralytic stage.

If we would lessen our guesses and shorten our gaps and do more thorough work in history taking and examinations at the bedside, we might be able to discover many of these abortive cases, which must have been cause of epidemics Sweden and America have suffered from during the past ten years.

HOSPITAL ORGANIZATION*

(Group Diagnosis)

F. G. Murphy, M.D., Mason City

It is by the request of the Secretary that I venture to express myself upon this timely topic and I assure you that I keenly feel my inability to present the subject in the comprehensive manner its importance demands.

Medical organization is today in its infancy though, of necessity, it cannot long remain so. In a pursuit so many sided as medicine, we are compelled to submit to a division of labor which has been a condition of advance in all other walks of life.

The more we recognize this division of labor the more united those who engage in the various branches of the profession become. Twentieth century medicine is not a one man affair. As great as have been the improvements in the science and art of warfare and of the industrial pursuits, it can scarcely be compared to the advances made in the various branches of medicine and surgery in the last quarter of a century, and no physician is capable of becoming familiar with but a small part of the whole field.

In the not distant future we will talk more of institutions and less of men. The interdependence of the specialties is rapidly becoming recognized, and medical organization is rapidly extending. People are demanding a thorough examination which no one physician is capable of making, so let us not shut our eyes to the truth but qualify ourselves for the opportunity that awaits us.

We are now thinking of much more ideal conditions which we must not expect to realize in a day. There is much to be done after organization has been effected, so let us begin as soon as possible.

Now that modern medicine has condemned the one-man diagnosis, let us in commemoration of

*Read before the Cerro Gordo County Medical Society, January 31, 1917.

its good intentions, pin upon it the badge of senility and hasten its departure.

Let us so organize that we may render the best possible service to those who seek health and happiness at our hands, and incidentaly give our society a reputation for thrift and progress that would justify the most sincere respect of our noble calling.

To work in groups greatly increases our efficiency in caring for the sick and makes better men of us in every way. It is in close co-operation that our talents are appreciated and when we are encouraged to develop them. It is also a pleasant situation for the individual whose heart is in his profession and who enjoys good work.

C. H. Mayo, in the July, 1916, issue of the Modern Hospital, says:

> An efficient, harmonious working corps of physicians is very necessary in the organization of a hospital. It is not for us to discuss the methods by which the staff of medical attendants should be chosen. They should certainly be considered for their fitness, and should hold their places on civil service if their efficiency is maintained. It should not be necessary for the hospital to furnish reputation for attendants who are below par and who have secured appointments by political or church pull, or the fact that they were family physicians of some of the directors. There are certain positions in a hospital which, to secure the highest efficiency, should be maintained by fixed salaries—those of the pathologist, bacteriologist, chief anesthetist, and the surgical registrar. With the recognition of the fact that many of the acute and chronic diseases, local and general, arise from a local focus—the most common source being the mouth—the true importance of dentistry is now recognized, and a dentist should be associated with every clinic and hospital, or subject to consultation call.

The writer is not speaking as one who is a member of a perfect organization—perfect organizations are not possible. Organizations of physicians for group diagnosis are matters of discrete selection and growth and a perfectly satisfactory working system must not in the beginning be expected.

As in the drama the actor must be selected that will best fit the part and the all-star cast is the ideal organization towards which we must bend our efforts. It is in close co-operation that we learn each others weaknesses and strength and so the organization to live, must grow, which necessitates slight changes here and there from time to time. All should understand that the success of the organization is paramount to the interest of the individual, though we must expect that the physician who has been practicing independently for a number of years is likely to be a headstrong and unruly soldier in the camp. But we must learn to work in groups in order to do justice to those who place their health and their lives in our hands and we must submit in the future to a division of labor in order to maintain the reputation of being useful members of the profession to which we belong.

The physician in the small town has his problems to solve though there should be groups in neighboring towns who would welcome affiliation with him. In the towns of two or more physicians there should be a mutual division of labor. However, the physician in the medical center who persists in practicing by himself, will soon find that he is falling by the wayside for he can in no sense render the service to his patient that may be secured in a well organized group where every member is specializing in some particular field.

It seems to the writer that the spirit of the profession is at the present time especially favorable for such a division into groups.

What cities anywhere are in a better position to more thoroughly organize than are ours? If we cannot organize in three groups, let us organize in four or five. The physician who could not work in one team might work well in another. In my opinion each group should have its recognized surgeon, internist, eye, ear, nose and throat specialist, urologist and bacteriologist who in some groups might also act as rœntgenologist.

All groups could use such specialists as the dermatologist, a neurologist, the dental surgeons or any other specialist who might locate in the city whose services might be of benefit to the various organizations.

As expert team work is comparatively new, there are few precedents by which to follow, and each team would undoubtedly find it profitable to work out its own system. The surgeon should be carefully selected as the greatest responsibility rests upon him. The internist is a very important member of the group for the more expert the internist, the fewer the surgical operations it may be necessary to perform. We should strive to make our city a medical as well as a surgical center, and to do this we must emphasize the importance of the service of the skilled diagnostician and expert in the treatment of internal diseases. Many unskilled surgeons are today paid exorbitantly for their services as compared to the remuneration received by the most highly trained and skilled internist.

Many physicians in our state pose as surgeons because work in that field is more remunerative, and the result is that much unnecessary and poorly performed surgery is being done. Due appreciation of the highly trained internist is one

remedy for this evil, and this is best brought about by group work. Let us support whole heartedly our competent and trained surgeons and internists that the public may know with whom to trust their lives.

Let us convince the people of our community that we are in earnest in our efforts to relieve the sick and distressed by entering into that division of labor which counts most for efficiency and service.

It is not necessary that every patient who consults one member of the group should be seen by every one of the team. The percentage of patients who see the whole medical staff is comparatively small; however, it frequently happens that the additional services of one or more members of the group are invaluable to the welfare of the patient, the assistance, if any, in the case being determined by the nature of the illness.

The patient should in this respect be inconvenienced as little as is commensurate with thoroughness and his restoration to health and happiness.

The important consideration in group diagnosis is that it should be thorough and relatively inexpensive to the patient and that the services of every member of the staff should be available when the nature of the malady is such that benefit to the patient might be derived therefrom.

It is unnecessary to say that each member of the staff should confine his work to his own particular specialty and that there should be harmony between the representatives of the departments.

As you know, the Park Hospital group has been in existence for more than seven years, and in the beginning, the system of team work was given little attention, so team work with us has been a matter of growth. A number of splendid men have left our organization, some because of death and others from choice. Those who left us from choice did so mostly because the special line in which they were interested was to a considerable extent covered by some other member of the group. So it must inevitably happen that in the Mercy Hospital group and the Story Hospital team, a strong member of the organization will occasionally drop out because he can best pursue his specialty in some other group. This and many other difficulties must be expected, and surely they are no greater than are the trials met with in the organization of educational, commercial and industrial institutions.

It does not matter how difficult the task of organizing a medical team may seem to be, modern medicine demands it, and every effort should be made to unite our forces that the greatest efficiency may be attained.

Let us become an integral part of the Chamber of Commerce that we may be of assistance to that organization and it to us in our efforts to make our city a better place in which to live.

The opportunity is open for Mason City to become the medical center of our state and our Chamber of Commerce is as much interested in the movement as we are. For those physicians in middle life, team work is gradually becoming more difficult in which to adjust one's self, and they should begin as soon as possible.

And now, with apologies to the admonition of holy writ, let me urge you to remember now thy opportunity in the days of thy youth, when the evil days come not nor the years draw nigh, when thou shalt say, I have no pleasure in them.

CAMPAIGN FOR NEW STATE LAW AUTHORIZING THE ESTABLISHMENT OF DAY SCHOOLS FOR CHILDREN WITH DEFECTIVE HEARING AND SPEECH SUCCESSFUL

H. G. Langworthy, M.D., Dubuque

Through the joint efforts of the Conservation of Vision and Hearing Committee of the Iowa State Medical Society, the Iowa Association for the Advancement of the Deaf, the National Association of the Deaf, and a few private individuals, two excellent bills relating to the education of the deaf were passed by the recent session of the state legislature.

The first bill authorizes the transfer of the State School for the Deaf at Council Bluffs from the State Board of Control to the State Board of Education.

The second bill authorizes the establishment of day schools for the deaf in the various cities of Iowa where there are young deaf pupils. Among the "campaign literature" used by the special committee of the State Medical Society in obtaining this law was the following brief but interesting circular of information:

THE EARLY EDUCATION OF DEFECTIVE CHILDREN

Why Is a Day School Law Needed in Iowa?

It is needed (1) so that deaf and semi-deaf children in particular may be placed in school at kindergarten age, thus keeping their minds active and permitting them to acquire speech, if capable of doing so, before they are sent to the State School at Council Bluffs; (2) so that all defective children may receive individual instruction by trained teachers, if needed, instead of stumbling along as at

present under impossible conditions; (3) so that it will not be necessary to send young children (often mere babies) away from home to be educated; (4) so that these children may be made to feel that they are part and parcel of our great, democratic public school system, permitting them to associate so far as possible with normal children, and to learn from them.

What Is a Day School for Deaf and Semi-Deaf Children?

It is merely a room or rooms properly equipped and set apart in some one of the public school buildings of a city for the exclusive use of the deaf and semi-deaf children. The teacher is specially trained for this work, and can give individual instruction to about ten pupils. In most day school states the local school board of a city furnishes the room, heat, light, janitor service, etc., and the state pays the salary of the teacher or teachers, either in whole or in part. Day school for the defective in speech or the subnormal are similar in character, but separate, although often in the same building.

What Should be the Relation of a Day School to the State School?

It should be one of co-operation. In the language of Mr. Jay C. Howard, president of the American Association of the Deaf, "Day school should be recruiting stations and feeders for the state school, while keeping active the minds of children too young to leave home. The essential feature of the system is an up-to-date and well equipped state school having a corps of well trained teachers under a competent superintendent."

The exact copy of the measure exacted as it will appear in the session laws:

EDUCATION FOR DEAF CHILDREN
Substitute S. F. 331

An act to authorize school corporations to provide education for deaf children and to provide state aid therefor.

Be it enacted by the General Assembly of the State of Iowa:

Section 1. **Instructions for Deaf Children**—That any school corporation within the state having residing therein deaf children of school age may provide one or more special instructors for such deaf children, the instruction given under such special instructors to be substantially equivalent to that given other children of corresponding age in the graded schools.

Sec. 2. **State Aid**—That to any school corporation providing such instruction and complying with all of the provisions of this act there shall be granted and paid as hereinafter provided, state aid in an amount to be computed at eleven dollars for each month each child not more than ten years of age is instructed under the provisions of this act. No child more than ten years of age shall be admitted to such instruction.

Sec. 3. **State Board of Education to Supervise**—That when any school corporation shall elect to proceed under the provisions of this act it shall, through its proper officers, communicate that fact to the state board of education, and the state board of education shall have general supervision of all matters arising under this act, and no instructor shall be appointed hereunder and no courses or methods of instruction shall be installed hereunder without the approval of such state board of education.

Sec. 4. **State Aid—When Payable**—That the state aid herein provided for shall be paid annually at the end of the school year upon properly authenticated and verified claim in form as may be required by the state board of education, and when such claim is approved by the state board of education the auditor of state shall draw warrant accordingly.

Sec. 5. **Appropriation**—That for the purpose of paying the state aid granted under this act, there is hereby appropriated out of any funds in the state treasury not otherwise appropriated, a sum sufficient therefor, such appropriation to be available for the school year 1917-1918 and annually thereafter.

It is believed that under the State Board of Education the state school for the deaf will become one of the most up-to-date schools of its kind in the country. Among the improvements that are being advocated are thoroughly competent medical supervision, a segregated oral department, better equipment in the industrial and manual department and a new cottage for the younger students.

TRAUMA AND TUBERCULOSIS

In the "Berlin Letter" published in the February 3d number of the Journal of the A. M. A., are some interesting observations on the relation of war and trauma in the production and development of tuberculosis.

"Much valuable information on the relationship of trauma to tuberculosis may be expected, although, according to present indications, few cases of tuberculosis have developed as the result of trauma in general and lung injuries in particular. The lighting up of old or latent cases and the progression of mild cases is not uncommon, however. In many instances old cases remained wholly unaffected. Moritz investigated cases of gunshot wounds of the chest at various special hospitals, and found a direct etiologic relationship between injury and tuberculosis in nine cases. In thirty-six cases the disease was undoubtedly made worse. These figures surely are not alarming when one remembers that the cases of lung injury in this war are numerous. During the Franco-Prussian war very few cases of pulmonary tuberculosis developed as the result of chest wounds. The typhoid prophylactic vaccination, it is believed, also activates pulmonary tuberculosis, although such cases are merely isolated instances. Observations made on this subject are very instructive."

The Journal of the Iowa State Medical Society

D. S. Fairchild, Editor.....Clinton, Iowa
T. B. Throckmorton, Business Manager.....Des Moines, Iowa

Publication Committee

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THE LIQUOR TRAFFIC IN RELATION TO FOOD CONTROL IN ENGLAND

The possible shortage of food supply in England is leading to a serious consideration of the leakage arising from the conversion of grain into alcoholic beverages. Aside from any questions of temperance, necessity seems to require a discontinuance or at least a great decrease in the manufacture of alcoholics. The Lancet sees a serious element of danger in this admittedly desirable or even necessary course of action. It is unfortunately true that the English workman has been too much given to the use of alcohol and has been accustomed to taking some form of alcoholic beverage as a part of his diet after a day's hard labor. The Lancet fears that the older and less vigorous but experienced workman—so much in demand under present conditions—may seriously fail in efficiency if his accustomed drink is abruptly taken from him. Those in favor of the policy of total prohibition, and business men and employers of labor who have in mind the increased efficiency of younger and more robust men under teetotalism, may underestimate the risk of carrying the prohibition measure too far.

The Lancet refers to the effect of enforced abstinence in Russia; illicit traffic; secret drinking; the drinking of methylated spirit, varnish, lacquer, etc.; resulting in many cases of death and blindness. The Lancet warns against too much zeal in enforcing total abstinence, but rather to impose restrictions on the manufacture of alcoholic liquors, and advocates the German plan of allowing limited quantities of beer, thus providing a moderate amount to those whose habits of life seem to demand it, and at the same time conserve the grain which may be seriously needed for food.

Dr. J. J. Daly is meeting with questions already too common in the hospitals of Iowa and to a greater or less degree in other states. Hospital management seems to consider medical men peculiarly unqualified to pass opinion on hospitals; it would be better apparently to appeal to any one but a doctor. It is apparent that a large proportion of our hospitals are organized for other purposes than the efficient care of patients and if doctors are consulted, it is only incidentally. How often the opinions of medical men are overruled by laymen, the profession well know. There are many skillful and well trained medical men who are handicapped by the inefficient hospital management and the patients which the hospital needs, go elsewhere for treatment out of self interest. Local interest seeks to keep people at home in every commercial relation but it is the general custom to advise sick people to go elsewhere for medical opinion and treatment. Why hospitals will not listen to the local profession and co-operate with them is beyond human understanding. We know of but few instances where the hospitals, commercial clubs and the people generally co-operate to build up an efficient medical and surgical hospital service. It is often alleged in explanation of this anomalous condition of affairs, that the medical profession do not co-operate in matters vital to themselves, how could it be expected that laymen would do better. Unfortunately there is too much truth in this contention. Too often all parties content themselves with a statement which we copy from a newspaper, when speaking of a new hospital.

The hospital is a comparatively modern institution. It has come hand in hand with civilization and has become a boon to the physical sufferer in this age of remarkable medical progress. No city is worthy of the name which does not have an up-to-date hospital to supply the physical necessities of the sick and wounded.

We are informed that the enterprising city of Atlantic has recently constructed a new hospital at the expense of $40,000 under the control of the Atlantic Hospital Association. Atlantic has not been without a hospital for it appears that several years ago a group of Atlantic doctors joined in converting a private residence into a hospital, which served a useful purpose temporarily, but the city was too enterprising to limit it-

self to inadequate accommodations, and have raised the sum of $40,000 as above stated, and have constructed a hospital for which the town feels a warranted degree of pride. It is one of the hopeful signs of medical progress in our state that one city after another is being provided with ample hospital accommodations for the care of the great majority of patients that need hospital service and treatment. Having secured such hospital accommodations, the next step that we may hopefully look forward to is the organization or reorganization of these institutions on a truly scientific basis, and that the reproach which has so often been cast upon our hospitals may little by little be removed. It is not to be expected that these new hospital organizations based on limited experience will reach the high ideal that may reasonably be expected when the hospitals have gained large experience, and have at their control, larger financial resources.

CONTAGION AND HEREDITY IN CANCER

On another page we are publishing an address delivered by a Mr. Arthur Hunter at the tenth annual meeting of the Association of Life Insurance Presidents, New York. We give space to this address because of the fact that there still appears to be a belief among certain members of the profession, that cancer may be contagious and hereditary. We take it from what we have personally heard at medical meetings, and elsewhere, that those who entertained a suspicion that cancer was contagious or hereditary, or both, was based on a failure to understand the results of liberal experiment. Research institutions have from time to time called attention to the inoculation of certain lower animals with a disease which was called cancer, and we apprehend that from these statements, certain medical men have drawn conclusions that were not justified. Mr. Hunter has studied this matter from the standpoint of a large number of cases that have been before life insurance companies for their consideration and from the careful and thorough study which they have given to any facts that might tend to show that cancer was transmitted from one to another or acquired through hereditary influences.

THE X-RAY DIAGNOSIS OF GAS IN THE TISSUES

We copy from the British Medical Journal for January 6, 1917, some observations of Dr. J. D. Morgan, Radiographer with the Canadian General Hospital and Dr. G. Vilvandre, Radiographer with British General Hospital, B. E. F., France, on the use of the x-ray in the diagnosis of gas in a wound. These observations appear to us of such importance that we give them place in the Journal.

The subject has previously been mentioned in at least two short articles—by Woodburn Morrison and by Ledoux-Lebard. But as time goes on, and experience with this serious condition increases, and we have become more and more impressed with the importance of the x-ray findings, both in regard to the much earlier diagnosis of the presence of gas which can be made by this method than by any other, and also by the definite information given as to the extent of tissue involved.

We here deal with a number of interesting examples of this condition, in several of which the early warning given the surgeons, through the x-ray findings, probably saved the limbs, if not the lives, of the wounded men. At the same time it must be noted that the interpretation of the skiagrams of such cases is not without its own particular pitfalls.

Where the typical clinical symptoms—the tender, swollen tissues, which on palpation give the characteristic crepitation; the foul odour about the wound; the rapid, thready pulse, and greyish drawn appearance of the face of the toxic patient—are well marked, the surgeon, naturally, does not need to rely on the x-rays for diagnosis; but even in such cases, where possibly amputation of the limb is the only treatment giving any hope of saving the patient's life, most valuable information may be supplied by the x-rays as to the extent of the tissues involved.

On the other hand, a number of cases have been observed in which the presence of gas in the wound was entirely unsuspected till revealed by the rays during the routine examination for pieces of metal or for fractures. All cases in which gas was reported by the radiographer were immediately operated on, and very free drainage established. The presence of gas was confirmed in every case. In several of them the gas continued to spread for a time, even after free drainage was established; in others the patients made an uninterrupted recovery.

We cannot but feel that the results, particularly in the former cases, might have been far different than they proved to be had it not been for the timely warning supplied by the skiagrams. The quantity of gas found in the tissues is no criterion of the virulence of the infection. We have several times seen patients where, according to the radiogram, much gas was present, do quite well on opening up the tissues, whereas in other cases where but little gas was found, the infection spread with such rapidity as seriously to endanger the patient's life. A consideration of the clinical findings, in conjunction with those afforded by the x-rays, will, in most cases, give a clue to the virulence of the infecting organism. A high temperature and other indications of toxæmia, and the presence of gas (even in minute quantities), is always indicative of virulent infection; whereas, when no clinical signs of intoxication are present,

even comparatively large quantities of gas in the tissues may be considered to be due to organisms of but low virility.

SCARCITY OF PHYSICIANS IN ENGLAND

At a recent meeting of the Glasgow Victoria Infirmary, according to a report from London on January 3, the opinion was expressed that before the end of the present war private practitioners in Great Britain will have become virtually non-existent and all civil patients requiring treatment must go to infirmaries. The Lancet. in a recent issue, says in this connection:

There must come a day, if the war is indefinitely prolonged, when the necessary economy of medical men can be obtained only by mobilization of the whole of the available supply, so that calls can be made upon individual services when and where required. It has long been felt that some such step might be taken and we believe that the general opinion of the medical profession, judging by the correspondence that comes to us, is in a similar direction.

VOLKMANN'S ISCHEMIC PARALYSIS

Dr. A. S. Taylor, of New York, in the January number of Annals of Surgery, presents a valuable paper on this interesting disease. When Volkmann's paralysis occurs, it is in relation to conditions which are liable to cause great embarrassment to the surgeon, and the possibilities should be considered early enough to prevent such complications. Dr. Taylor endeavors to discover as far as may be the primary cause of this peculiar condition. Is it an injury to the nerves? Is it an interference with the circulation of the part, or is it compression which results in a secondary degeneration of the muscle, resulting in fibrous changes in the muscle tissue, producing atrophy and stiffness, contracture and loss of function? It is contended that an injury of the nerves does not produce this type of muscle change but rather a flaccid paralysis and even if the injury to nerves is associated with interference of circulation, the paralysis is a flaccid paralysis in no way simulating ischemic paralysis. Dr. Taylor believes from clinical and experimental study, that Volkmann's ischemic paralysis is a traumatic myositis and that "nerve injury is purely a complication. It occurs in about 60 per cent. of cases." Considering then ischemic paralysis is caused, in most cases at least, by bandage compression in muscles which may have been damaged by injury, great care should be observed in applying bandages, particularly in children, lest this unfortunate complication should occur.

COMPENSATION LAW IN OHIO

The limit placed upon the compensation to physicians, hospitals, and nurses by the workmen's compensation law, for the treatment of seriously injured workmen, has everywhere been regarded as unfair. In Ohio where the compensation allowed to doctors, nurses, and hospital, is limited to $200, ($100 in Iowa) two bills have been introduced into the present session of the legislature to make the allowance more liberal. One bill provides that a sum may be granted in excess of $200, at the discretion of the board. The second bill fixes the limit at $300. It is believed that the legislature will correct this unfair condition. In our own state there is no disposition on the part of the legislature to increase the allowance in any one case beyond $100.

"IS CANCER EITHER CONTAGIOUS OR HEREDITARY?"

Abstract of an address delivered by Mr. Arthur Hunter, President of the Actuarial Society of America and Actuary of the New York Life Insurance Company, at the Tenth Annual Meeting of the Association of Life Insurance Presidents, New York, December 15, 1916.

Cancer appears to be neither hereditary nor contagious according to an investigation of life insurance statistics recently completed by Arthur Hunter, president of the Actuarial Society of America. Utilizing the large mass of vital statistics recorded with special accuracy and detail by six of the largest American life insurance companies which co-operated with many others in the recent medico-actuarial mortality investigation, Mr. Hunter reports that the cancer rate among those in close attendance upon sufferers from this disease is only normal and that the same normal rate prevails among those whose parents or grandparents died of cancer. Summarizing this investigation in the words with which he concludes his address, "the statistics show that a man or a woman, one or both of whose parents died from cancer, is no more likely to die from that disease than those whose family history was free from that blemish; strong proof should be presented in the future to justify asking the public to take any other point of view. Men and women who are in anxiety of mind on account of the appearance of cancer in their ancestry or immediate family may dismiss such anxieties, as there is no statistical evidence at the present time that the disease of cancer is transmitted by inheritance in mankind."

Pointing out that cancer caused 80,000 deaths in 1915 and nearly three-quarters of a million deaths among the inhabitants of the United States during the last decade, Mr. Hunter referred to the co-operation of life insurance companies with the American Society for the control of cancer in special statistical

investigations and to the importance of an organized crusade against this disease, which, during the last ten years, has taken a toll of life equal to the entire population in 1910 of Maine or Florida. "It should not be assumed," said Mr. Hunter, "that cancer is a disease of old age and that accordingly its ravages do not constitute a serious economic loss to the country. About one-half (or 40,000 of the deaths in 1915) were among persons under sixty years of age, and if we assume that each of these individuals was worth potentially $2,500, the community was poorer by $100,000,000 through their deaths, aside from the cost of attending to them in their sickness. The economic loss, however, is a small matter compared with the pain of those who succumb and the sorrow of those who must watch their relatives die from cancer."

Referring to the interest which a disease so widely prevalent naturally arouses as to whether it is contagious or hereditary, either by direct transmission or predisposition, Mr. Hunter continued:

"Such questions must be in the minds of hundreds of thousands of the relatives of persons who have died within the last few years from this disease and of the others who are suffering from it. I have found through direct information from relatives of cancer victims and through association with practicing physicians that there is a great deal of apprehension and foreboding—a fear that it may have been inherited or that it may develop through contagion. Unhappiness among some of the relatives is due to the mystery connected with the disease. Their fears are the result of impressions derived from individual cases where death from cancer has been attributed to a previous death of another member of the family. Desultory investigations in the past had led me to feel that there is little to fear from inheritance or contagion even before I undertook the present study with the desire to substitute facts based on a study of groups for impressions based on individual cases."

Contagion

According to Mr. Hunter "there seems little to support the views that cancer is the result of contagion. If it were, then in a goodly proportion of cases, the wife would be infected by her husband, or vice-versa. In addition to the evidence heretofore published which seems to prove that there is no such result, I wish now to offer some original figures.

"Twenty thousand applications for insurance were reviewed, and it was found that in 488 cases one only of the parents of the applicant was stated to have died from cancer, and in four cases both parents were stated to have died of that disease. Summing up the results, it appears that out of the 492 cases where one or both parents had died of cancer, 43 per cent. of the other parents had died of some other disease, 56 per cent. were living at an average age of sixty-one and less than 1 per cent. (4 out of 492) had died from cancer. There were accordingly 122 times as many cases in which one parent had died of cancer as of those in which both parents had died of that disease. This clearly indicates that there is very little to fear from contagion as there could hardly be a stronger test than the case of husband and wife. The significant fact in this investigation is that there were only four cases out of the 20,000 applications for insurance in which both parents died of cancer."

Heredity

"The possibility of heredity," said the speaker, "has generally been studied by experiments on animals. In the case of human beings there has been no previous attempt, so far as I am aware, to investigate the problem in families where there has evidently been a cancer strain, if such a thing exists. In the present investigation, one of the groups consisted of cases in which both of the parents had died from cancer; and in another of the groups, a parent and a brother or a sister of the policyholder had died from that disease. It might be expected, therefore, that if cancer were hereditary, it would be shown very clearly in the family records of these persons but this has not appeared. Approaching the problem from other aspects, several investigators, notably, Dr. F. L. Hoffman, have come to the conclusion that the factor of human heredity is of little, if any, importance. The fact that some strains of mice can be inoculated with cancer while others appear to be uninoculable, suggests, however, that there may be similar differences in mankind, and that in one race, cancer is more or less inheritable and not at all so transmittable in other races."

After stating his belief that it does not follow that all the same conditions prevail in mankind as in animals, Mr. Hunter described his first investigation of the human material as referring to cases of persons insured in six companies, both parents having died of cancer prior to date of application for insurance. He first ascertained, wherever known, the causes of death of the parents of those who had died of cancer, with the following result:

"Of 472 grandparents of the insured, the cause of death was given in 234 cases of which two were from cancer; the cause of death was stated in 184 of these as 'old age,' the average age at death of which was eighty-two. In seventy-two of the grandparents the cause of death was not known but the age was given, the average being sixty-two; in 155 cases neither the age nor the cause of death was known. It is reasonable to conclude that if only two died of cancer out of 234 parents of persons who died of cancer, that disease is not hereditary."

A further study referred to family records of cases where one parent and one son or daughter had died of cancer. The entire statistics were combined with the result that of 368 grandparents the causes of death of 147 were stated and of these only one died from cancer.

Still another line of inquiry was directed toward the 488 cases (already referred to as the basis of findings regarding contagion), in which one parent of the applicant had died of cancer. It was found that among the sons and daughters of these 488 par-

ents "there were only two deaths from cancer among 810 persons, one of whose parents had died of that disease, all of these 810 persons having lived beyond the age of forty. According to the mortality statistics of the Census Bureau, based on the population of the United States, the number of deaths to be expected above the age of forty from cancer would be about three."

In order to obtain additional statistics from an entirely different source, Mr. Hunter concluded his series of investigations by examining the records of one of the largest and best hospitals in New York City. Although he found that "the material was not nearly as definite as the data from the life insurance companies" he succeeded in tabulating the family history of 100 patients admitted for cancer. He found that the number of deaths from cancer recorded among the 200 parents of the patients was five, and among the 400 grandparents only one, which would represent a low death rate from cancer. "The study of these 100 cases," he concluded, "gives no indication that cancer was transmitted from the parents to the patients who had undergone an operation for cancer."

DRUG ADDICTION NOT A HABIT

The joint legislative committee on narcotic addiction of the New York State Legislature has arrived at the conclusion that drug addiction shall be defined as a disease symptom, not a habit. This statement is made in the report submitted by this committee to the legislature on February 19. The report says that one of the first duties of the state is: "To establish a supply of narcotic drugs, to which the confirmed addict shall have access, under proper state regulation, pending the establishment of a rational and scientific treatment for this disease." The report says that "The committee believes that at least 100,000 people are now suffering from this disease. Your committee is inclined to criticise the medical profession for its lack of study of this increasingly important subject."—(New York Medical Journal.)

AN IMPORTANT SUPREME COURT DECISION

On January 8, the United States Supreme Court at Washington, D. C., affirmed the refusal of the Federal Court in California to enjoin enforcement of the California Medical Practice Law which requires the licensing of so-called drugless practitioners but exempts Christian Scientists.

California's so-called "drugless healer" laws, enacted in 1913, were attacked as unconstitutional in two injunction suits of a Los Angeles chiropractor, and a Los Angeles ophthalmologist. No Christian Scientists were parties to the suits, but have been watching them because of the statutes' exemption of Christian Science and other "prayer practitioners" from examination and licensing by the state medical board.

The laws, designed to suppress quack and fake healers, require osteopaths, neuropaths, chiropractors and other so-called drugless healers to have certain physiological knowledge.

Exemption given Christian Science was attacked as unconstitutional in the injunction suits. It was contended that the law gives Christian Scientists a monopoly in "prayer practice," discriminates against drugless practitioners of every school of drugless healing in favor of those using prayer only, is class legislation, and an arbitrary exercise of the state's "police powers."

The California laws, the defending authorities asserted, permit all persons whether drugless practitioners, physicians or Christian Scientists, to treat the sick with prayer. The statutes, they contended, are designed to regulate treatment by material means.

That the state was without power to determine "the particular religious form or ceremony which shall be employed in drugless treatment of disease" or to "distinguish between different religious form, rites and ceremonies" was contended by those attacking the laws.

In upholding the decision of the California Court the Supreme Court at Washington also dismissed an appeal attacking the validity of the California law regulating the practice of optometry.—(Boston Medical and Surgical Journal.)

THE NATIONAL CONFERENCE OF CHARITIES AND CORRECTION AT PITTSBURGH, JUNE 6-13, 1917

A realization of the importance of health seems to have spread through the program of the National Conference of Charities and Correction like an infection. The outline of discussions at the forty-fourth annual meeting of the organization, to be held at Pittsburgh June 6-13, has just been issued from the permanent office at Chicago. The division on health will be under the chairmanship of Professor C. E. A. Winslow of Yale University, and the vice chairmanship of Dr. H. M. Bracken, secretary of the Minnesota State Board of Health.

The campaign against infant mortality will be brought to the attention of the conference by Miss Julia C. Lathrop of the Federal Children's Bureau, and Dr. Charles E. Terry, late health officer of Jacksonville, Fla. Professor Graham Lusk of Cornell University Medical College will speak on hygiene and economy in diet. Coordination of health activities appears prominently in the program outline. Three phases will be presented, respectively, by Franz Schneider, Jr., and Gertrude Seymour of New York, and Wilbur C. Phillips of Washington; the apportionment of the health budget, the relation between social workers and public officials and the health center plan. Another session will be devoted to public health nursing.

"The United States is the only great industrial nation without compulsory health insurance," Professor

Irving Fisher has said recently. In view of this need, the National Conference has provided an entire division on the subject of social insurance for its meetings at Pittsburgh. The chairman of this series of discussions is Max Senior of Cincinnati. The program has been arranged to occur the latter part of the conference period so as to accommodate medical men who attend the meeting of the American Medical Association in New York.

The conference at Pittsburgh will continue for one week. Thirty-five hundred delegates are expected to attend. The president is Frederic Almy, secretary of the Charity Organization Society of Buffalo. The prevention of human distress through the operation of all sorts of agencies has been adopted as the main topic of the meeting.

MEDICAL SERVICE IN THE SOMME CAMPAIGN

In the official report recently made by Field Marshall Sir Douglas Haig of the fighting during the past season in the Somme Campaign occur the following paragraphs relative to the work of the medical services.

"The losses entailed by the constant fighting threw a specially heavy strain on the medical services. This has been met with the greatest zeal and efficiency. The gallantry and devotion with which officers and men of the regimental medical service and field ambulances have discharged their duties is shown by the large number of the R. A. M. C. and medical corps of the Dominions who have fallen in the field. The work of the medical services behind the front has been no less arduous. The untiring professional zeal and marked ability of the surgical specialists and consulting surgeons combined with the skill and devotion of the medical and nursing staffs, both at the casualty clearing stations in the field and the stationary and general hospitals at the base, have been beyond praise. In this respect also the director general has on many occasions expressed to me the immense help the British Red Cross Society have been to him in assisting the R. A. M. C. in their work.

"The health of the troops has been most satisfactory, and during the period to which this despatch refers there has been an almost complete absence of wastage due to disease of a preventable nature."

—(Boston Medical and Surgical Journal.)

LOSSES IN THE PROFESSION IN GERMANY

The Deutsche medizinische Wochenschrift of December 14, 1916, gives the number of physicians who have fallen at the front as 395; 214 have died from sickness contracted in the course of their service with the troops, 221 have been severely wounded, and 677 wounded but not severely, while 200 have been taken prisoners and 110 are missing. These figures are from the German casualty lists 1 to 700.

—(The Journal of the American Medical Ass'n.)

VACATION IN NORWAY FOR NURSES WITH THE BELLIGERENT FORCES

Our German exchanges mention that at the recent annual gathering of the hotel proprietors of Norway, a suggestion was made by the chief of the medical department of the Norwegian army to the effect that the hotel proprietors offer the nurses at the hospitals of the belligerent forces free accommodations to enable them to get a brief rest and respite. The plan was cordially taken up and backed by private individuals, and invitations for the purpose have been sent to the headquarters of the forces of each of the belligerent nations. An equal number of nurses from each of the forces is planned.—(The Journal of the American Medical Association.)

HONOR FOR DR. FLEXNER

Report from Paris on December 21 states that Dr. Simon Flexner, director of the Rockefeller Institute for Medical Research, New York, has been elected a foreign associate member of the French Academy of Medicine.

THE CARREL-DAKIN TREATMENT

It is reported that the Rockefeller Institute for Medical Research has appropriated $200,000 for the establishment of a hospital to be used for the instruction of surgeons in the Carrel-Dakin treatment of the wounded. It is expected that Dr. Alexis Carrel will be granted a leave of absence from France to come here and assume personal supervision of the work. One hundred beds will be provided. The hospital will be organized as a military unit, and will also serve the purpose of testing the feasibility of the plans for a portable hospital outlined by Dr. Charles Butler, who made a study of the subject under the French war department. Successive groups of army surgeons are to be assigned to the hospital to study the treatment.

CONTRACT OF HOSPITAL TO CARE FOR INFANT RECEIVED ALONG WITH MOTHER

(Roche vs. St. John's Riverside Hospital [N. Y.], 160 N. Y. Supp. 401)

The Supreme Court of New York, special term, Westchester county, holds that it is within the power of a hospital to contract to receive an infant along with its mother and to exercise over it careful supervision and watchfulness in order that it may not suffer harm while the mother is undergoing a course of treatment, and that an action may be maintained by the administrator of the estate of the infant when its death is caused by a breach of such contract, as when its head is permitted to come into contact with a steam pipe and to remain so long that its death is caused by the burn. The court thinks that it has authority for holding this to be true even if the hospital be a charitable institution.—(Journal of the American Medical Association.)

PHYSICIANS NEEDED IN ENGLAND

England cannot commission foreigners in the army, but it is proposed to offer inducements to some hundreds of young American physicians to serve in the insular hospitals and thus release British physicians for military service.

The University of Toronto graduated December 11 a class of forty-seven, all of whom have enlisted for war service. The senior class has been working without vacation in order to graduate as early as possible.—(Buffalo Medical Journal.)

AN OCCUPATIONAL THERAPY NUMBER

The Modern Hospital (Chicago and St. Louis) announces that its June issue will be devoted to the subject of occupational therapy and occupations for the handicapped. The importance of this subject has not been sufficiently realized until comparatively recent times. Of late the nations at war have come to recognize the therapeutic and economic necessity of providing suitable occupations for those of their wounded and injured who are able to work. This necessity is just as urgent in the case of the handicapped class in civil life.

Among the subjects of important papers to be published in the occupational therapy number are "History of Occupational Therapy," by Dr. W. R. Dunton, Jr., assistant physician, Sheppard and Enoch Pratt Hospital, Towson, Md.; "The Potteries of Arequipa Sanatorium, an Experiment in the Reeducation of Tuberculous Girls," by Dr. Philip King Brown, medical director of Arequipa Sanitorium, Manor, Cal.; "Remunerative Occupations for the Handicapped," by Dr. Herbert J. Hall, physician in charge, Devereux Mansion, Marblehead, Mass.; "Occupation Therapy in the Mental Hospital," by Dr. A. H. Ruggles, first assistant physician, Butler Hospital, Providence, R. I.; "Occupation and Diversion for Tuberculous Patients," by Dr. A. T. Laird, superintendent Nopeming Sanatorium, Nopeming, Minn.; "Work in the Treatment of Insane Criminals," by Dr. Paul E. Bowers, medical superintendent Indiana Hospital for Insane Criminals; "Some Principles of Occupational Therapy," by Miss Elizabeth Upham, director of art department, Milwaukee-Downer College, Milwaukee; "The Inoculation of the Bacillus of Work," by Mr. George Edward Barton, director of Consolidation House, Clifton Springs, N. Y.

Another important feature of the June issue of The Modern Hospital is to be a paper prepared by Miss Alice F. Bell under the auspices of the department of nursing, Teachers College, Columbia University, on the standardization of records in training schools for nurses. This is work for which there has long been a crying need. It is believed that the system outlined in this paper will be of epoch-making importance in nursing education.

ABROGATE THE PATENT ON SALVARSAN

The Journal has already commented on the difficulty in securing salvarsan, on the moral and ethical question as to whether or not it is justifiable for one person to control the output of a drug necessary to public health. This week we publish an account of the action of the St. Louis and Chicago medical societies, which are calling on the medical profession to appeal to their senators and congressmen to abrogate this patent. The Journal believes that this patent should be abrogated, not alone because the patentees have not supplied the demand, not alone because they have dictated to the medical profession who should have the drug and how much a physician might have, not alone because of the war with Germany, not alone because of the special needs of the government at this time for the control of venereal diseases, not alone because, as some claim, the patent at Washington does not correctly describe the product, but also because the people who are supplying this product are charging prices that are exorbitant compared to the price at which others in this country can supply it. The fact is that the salvarsan one can obtain today costs $4.50 per ampule of 0.6 gram, whereas the same dose of arsenobenzol—a preparation identical with if not better than salvarsan—costs $2 at retail, and as Dr. Schamberg says: "If we are permitted to continue marketing the same drug after the war, we can sell it at $1 or less per tube." To abrogate this patent would be doing an injury to no one. Certainly the patentees of salvarsan have already reaped their harvest—and a pretty rich one. The supply of salvarsan at a reasonable price in proportion to its actual cost of production is in the interest of the health of the entire population of the country, whereas to let matters rest as they are, is to the benefit of one man. While we are emphasizing here the cost, there is after all a greater question, and that is the supply necessary to help control the ravages of one of the most serious diseases which afflict humanity today. It is the duty of Congress to abrogate the patent on this preparation and, incidentally, on all medicinal preparations of importance.—Journal of the American Medical Association, April 21, 1917.

SARGOL CONCERN FINED $30,000

On February 17, 1917, Wylie B. Jones and Herbert E. Woodward, the two men convicted of fraud in the exploitation of Sargol, were fined $30,000, Jones having to pay $20,000 and Woodward the balance. Both fines were paid and the defendants waived their right to appeal and agreed to have the Sargol company go out of business. Thirty thousand dollars is not a large amount to be assessed against men who have defrauded the public of millions. The fact, however, that these individuals but narrowly escaped going to the Federal penitentiary and were undoubtedly put to no small additional expense in attempting to defend their nefarious busi-

ness will have a wholesomely deterrent effect on other mail-order medical fakers.—Journal of the American Medical Association, February 24, 1917.

THE MOBILIZATION OF THE MEDICAL PROFESSION

The development of modern medicine and surgery has established the importance, in any military activities on a large scale, of a competent and adequate staff of medical officers. Present day surgery, hygiene and sanitation have adequately demonstrated their immediate and practical value in the handling of large bodies of troops. The mobilization of the physical forces of the nation now going on concerns the medical profession directly and offers to it an opportunity greater than any it has heretofore had in our national history. Physicians are needed for this most important and valuable service. In a nation like ours, based essentially on peaceful occupations rather than on militarism, reliance must always necessarily be placed on volunteers, drawn from the ranks of civil life, rather than from a special class trained to military service. No duty which confronts the medical profession today is more important than that of supplying, from the ranks of the American medical profession, such medical skill and service, both in quality and quantity, as the present need may require. Discussion of various phases of medical preparedness has been going on for many months past. It is gratifying to know that whatever may be the needs of the future, our country is probably today better prepared to meet any medical emergencies which may arise than at any previous time in its history. Various activities in this direction have from time to time been recorded and commented on in the Journal. One of the most important problems is the instruction of civilian physicians in the details of military hygiene and sanitation. On this subject, the Clinical Club of Albany, over a year ago, devised a plan which is worthy of the careful consideration of groups of physicians desiring to prepare themselves for military service. The resolutions passed by the University of Michigan Medical School and the Alabama State Board of Health are efforts to solve the question of the increased demand for professional services which is bound to follow the diverting of large numbers of physicians from civilian to military work. The plan proposed by the Maryland state committee on medical preparedness is an effort to minimize the practical difficulties which will confront the physician who is asked to give up, for the time being, his private practice for public service. These various plans are worthy of the careful consideration of physicians, both as individuals and as members of medical organizations. The present situation calls for cool judgment and deliberate action in order that the medical profession may perform well its full duty.—Journal of the American Medical Association, April 14, 1917.

DR. ELMER FREDERICK CLAPP

The profession of the State of Iowa, and more especially the earlier graduates of the medical department of the state university, mourn the death of Dr. Elmer F. Clapp, who died in the hospital at Morris, Illinois, at 2:30 the morning of April 12th. He was returning from a visit to Florida, when he



DR. ELMER FREDERICK CLAPP

was stricken with heart weakness so severe that he left the train at Morris, to seek rest and treatment in the hospital under the care of Dr. Frank A. Palmer, son of the late Dr. Palmer, who had been a dear and life long friend. The feeling toward the father included the son and was fully reciprocated by the latter, and it was to be with Dr. Palmer that Dr. Clapp struggled along until he reached Morris. A few days before his death he said to Doctors Palmer and Littig, "The two men whom I wanted most to see are with me and I am contented." For a time he seemed to improve, when, at the hour above mentioned, he fell into what seemed a sweet and restful sleep, his last. He now reposes in Elm Grove cemetery, Washington, Iowa. The remains of his wife will be removed from Wapello and laid beside him.

Dr. Clapp was born in St. Lawrence county, New York, seventy-four years ago on Thursday, April 10. His boyhood was spent in Morris, Illinois. At the

age of eighteen years, in 1861, he entered the army. At the close of the war he went to Washington, Iowa, and began the study of medicine in the office of Dr. W. H. Rosseau. He took one course of lectures in Ann Arbor, and graduated from Bellevue Hospital Medical College in 1870, practiced a short time in Washington, and accepted the chair of anatomy in the state university in 1871, since which time his residence has been at Iowa City. He continued a successful and inspiring teaching of anatomy for twenty years, never failing to gain the affection and esteem of his pupils. As a "quiz master" he had few equals. His class hour was always a pleasure and a stimulus. It is as a successful teacher of anatomy that he will be best remembered.

Dr. Clapp was married in 1887 to Mrs. Callie Barrett, a widow with two children. Mrs. Clapp died twenty-eight years ago, the children are also dead.

Dr. Clapp is mourned by two nephews, a half-sister and a niece and by his adopted son, Frederick Horton Clapp of Aurora, Illinois, to whom he left the bulk of his fortune. L. W. LITTIG.

BOOK REVIEWS

MEDICAL STATE BOARD QUESTIONS AND ANSWERS

By R. Max Goepp, Professor of Clinical Medicine at the Philadelphia Polyclinic, Assistant Prof. of Clinical Medicine, Jefferson Medical College. Fourth Edition, Thoroughly Revised. Octavo Volume of 724 Pages. W. B. Saunders Company, Philadelphia and London, 1917. Cloth, $4.25 Net.

This book as its title indicates, is offered as a material help to students and practitioners who are preparing for state board examinations. What questions may be propounded in the future, we are not able to state. This book is only able to present the nature of the questions submitted in the past, and their proper answer, which will be very helpful in preparing for what may come up in the future. After the applicant has adequately prepared for examination, he may properly fortify himself by a careful study of what the probable nature of the examination may be. A well qualified candidate may fail by being taken by surprise by his ignorance of the character of the examination to which he may be submitted.

This edition includes the later subjects included in a state board examination, physics, chemistry and bacteriology; and will be particularly helpful to the practitioner who has been out of school a few years and now seeks an opportunity to prepare for a new examination in another state.

TRAUMATIC SURGERY

By John J. Moorehead, M.D., F.A.C.S., Adjutant Professor of Surgery in the New York Post-Graduate School and Hospital. Octavo Volume of 760 Pages With 522 Original Illustrations. W. B. Saunders Company, 1917. Cloth, $6.50, Net; Half Morocco, $8.00 Net.

This book appears at an opportune time when the medical profession is confronted with the conditions imposed by workmen's compensation. The treatment of injured industrial workers has now come under the operation of the economic law governing industrial operations and the results of treatment are measured differently than formerly when the employment of a surgeon was a matter of sentiment. Dr. Moorehead has endeavored to lay before the profession a book especially adapted to the needs of the general practitioner who must from his relation to the public, treat certain surgical cases, particularly accident cases. It may safely be admitted that the training of the medical practitioner is inadequate to the needs of economic treatment in a considerable per cent. of instances, and this book offers a means of supplementing the practitioner's fund of preparedness for work he must be in a larger degree than formerly, responsible. The reader will find in a single volume, methods described for the treatment of all ordinary forms of traumatic injury. It cannot replace books on pathology, a study of which is necessary to a scientific knowledge of wound healing and many other things, or of volumes on fractures and dislocations which are, of course, fundamental, but how to deal with the multitude of accidents and injuries incident to industries and in civil practice, Dr. Moorehead's book is of great value. It is impossible to review in detail all that is set forth in the volume. The index is copious and will be a real help to seeking special information.

We may note in particular, forms for recording examinations for service in transportation companies, which we had the privilege to help to prepare as chairman of a committee appointed by the American Academy of Railway Surgeons. A chapter on medicolegal phases will be helpful to those doing this kind of work.

Several similar works have appeared in foreign countries, particularly in France and Germany, but this is the first comprehensive undertaking of this kind in America. We most heartily recommend this book to the American profession.

A PRACTICAL TREATISE ON FRACTURES AND DISLOCATIONS

By Lewis A. Stimson, B.A., M.D., L.L.D., Professor of Surgery in Cornell University Medical College, New York; Consulting Surgeon to New York and Bellevue Hospitals, etc. Eighth Edition, Revised and Enlarged With 475 Illustrations and 39 Plates in Monotint. Lea & Febiger, New York and Philadelphia. Price $6.00.

The most important branch of accident surgery is the diagnosis and treatment of fractures. Bad results in fractures are so apparent that they cannot

be overlooked and so often interfere with the full earning capacity of the individual or cause so much humiliation that claims for damages are frequently the result. The increased interest in fractures since the reaction from excessive abdominal surgery had led to a supply of new books on fractures and to the appearance of new editions of the more recent works of well known authors. Among the best known of these is Stimson's Treatise on Fractures and Dislocations.

The present war has contributed immensely to our knowledge of compound and comminuted fractures and the great importance of securing the best results that surgery can afford has stimulated our most gifted surgeons to seek out and put to the test every means to reduce crippling and deformity. Professor Stimson, to bring his work up to the first line of efficiency, visited the war hospitals in Europe for the purpose of placing before the American surgeon the best of European methods of treatment.

After presenting the usual chapter on the etiology and pathology of fractures, comes the general mechanical methods of treatment. The complications which so often attend fractures in industrial and war accidents, has brought about a revival of suspension methods of treatment. The Hodgen splint, which among surgeons had been overlooked, has come into popular use. Added to this comes the Cabot splint and the Blake devices for suspension purposes of both lower and upper extremities, which are so useful for the purposes of suspension and extension, and for the management of complicating wounds of soft parts, which renders it possible to dress these wounds without disturbing the relations of the fractured bones.

Referring to fractures of the surgical neck of the humerus, Stimson gives the line "as that portion of the bone lying between the site of the epiphyseal cartilage and the insertion of the pectorialis and teres major" (a question which has arisen in the trial of a malpractice case.)

A very carefully prepared chapter is given on fractures of the forearm, especially near the elbow and wrist joints. So many malpractice claims have arisen in consequence of unsatisfactory results in these fractures that the general practitioner should for his own protection study this chapter carefully.

Fractures of the femur are treated in Chapter 23. Here is an opportunity for a most careful and searching study. So many troublesome things come out of these fractures that the practitioner is in duty bound to watch for the latest publications and study them in the most prayerful manner. Think of the Hodgen suspension-extension splint; the Blake splint; the Cabot wire splint; the Buck's modified extension splint, etc. The x-ray has so wide a range of usefulness that it should never be forgotten in the diagnosis and treatment of fractures.

The last half of Stimson's book treats of Dislocations, and like the section on fractures, presents a full and complete exposition of the subject. This work of 946 pages offers a full and complete study of this most important branch of surgery.

TRANSACTIONS OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA

Third Series. Volume Thirty-eight, 1916. Printed for the College.

This volume contains the papers read before the college for the year 1916, and are of unusual value and interest.

THE NEWER METHODS OF BLOOD AND URINE CHEMISTRY

By R. B. H. Gradwohl, M.D., Director of the Pasteur Institute of St. Louis and the Gradwohl Biological Laboratories, St. Louis, and A. J. Blaivas, Assistant in the Same; Some Time Technician in Pathological Chemical Laboratories, New York Post-Graduate Medical School and Hospital; and Former Assistant, Chemical Laboratory, St. Luke's Hospital, New York City. Published by C. V. Mosby Company, St. Louis.

This book attempts to collect the newer methods of blood and urine chemistry in such a form that it may be available for those doing laboratory investigations. There is also added to this a chapter on the microscopic examination of urinary sediments and another on the bacteriology of the urine. The chemical blood examinations are in the main much too technical for the general practitioner and outside of the tests for renal function are as yet not well enough worked out for practical use by those in general practice. The space devoted to the examination of the urine is, however, well worth the consideration of all, whether practitioners or laboratory workers. It is written, of course, from the standpoint of the chemist and contains many tests that are no longer considered of practical value by the internists unless the complete examination of the intake can be made with that of the outgo. The part on the microscopical examination of urinary sediments is very carefully written, is well illustrated and thorough. The bacteriology of the urine given is very brief and although the methods given work well in the hands of the writers yet are not the methods usually taught. For instance no mention is made of the antiformin treatment of sediment suspected of containing tubercle bacilli, in order to prevent peritonitis in the guinea pig.

The portion of the book devoted to an interpretation of the various chemical tests is well written and puts forth material that one can get in no other way except by very extensive reading of technical journals. A description of an ideal laboratory is given very briefly. The book is very well illustrated and all laboratory procedures are made as plain as possible.

For those engaged in laboratory investigations of blood and urine this work has everything to commend it.

SUMMER COURSE AT THE STATE UNIVERSITY TO TRAIN YOUNG WOMEN FOR RED CROSS SERVICE, JUNE 18 TO AUGUST 17

Here is the chance for Iowa girls to prepare to do their bit in the war.

To train women for effective Red Cross service work, the University of Iowa will give a special eight weeks' course, beginning June 18 and ending August 17.

The purpose will not be to train Red Cross nurses, but it will be rather to train workers for capable home service—making of comforts for soldiers at the front, care of the poor, relief work among persons left dependent by the departure of soldiers, and other kinds of community welfare work made necessary by the war.

The need of careful preparation for such work is great. Already much effort has been wasted by volunteer workers through lack of understanding of what they are to do and how to do it well.

For the university's brief course all the special facilities of the college of medicine, the nurses' training school, the department of home economics, and the bureau of social welfare will be concentrated. Expert instructors will be in charge of the classes. The work will cover such subjects as elementary hygiene, home dietetics, preparation of surgical dressings, first aid, physical culture, social service, nursing and child care, and neighborhood sanitation.

Miss Mary C. Haarer, superintendent of the nurses' training school, and herself a Red Cross nurse, will direct the course. She has already visited Washington and New York to secure expert assistants and to observe similar work there.

"This is one of the most important things the university has ever undertaken," President W. A. Jessup declares. "It throws open the facilities of the institution to welfare work in a greater way than ever before.

"Hundreds of Iowa women ought to take this course. Few of them can be Red Cross nurses, but many must be workers in other lines of Red Cross work.

"Every college woman who is not obliged to do something else this summer ought to take this course to fit herself to do effective Red Cross service work at home and to instruct others in her home community to do this work. The course is open to any girl over sixteen years of age."

Out of those who finish the eight weeks' course those who are recommended by the Red Cross authorities may be selected for additional training of two weeks in the hospital here to fit them to be "Red Cross nurses' aids" in the active service at base hospitals and elsewhere.

NOTICE TO THE PHYSICIANS OF IOWA

New rules and regulations of the Iowa State Board of Health have been printed and mailed to all mayors, city and township clerks, health officers and county auditors of the State of Iowa. Any physician in Iowa who will make request to the State Board of Health that a copy be sent to him, will receive copy of the new rules and regulations.

—State Board of Health, Des Moines.

OFFICERS IOWA STATE MEDICAL SOCIETY 1917-1918

The officers of the Iowa State Medical Society for 1917-1918 are:

President.....John N. Warren, Sioux City
President-Elect.....Max E. Witte, Clarinda
First Vice-President.....Michael J. Kenefick, Algona
Second Vice-President.....Elias B. Howell, Ottumwa
Secretary.....Tom B. Throckmorton, Des Moines
Treasurer.....Thos. F. Duhigg

Councilors	Term Expires
1st Dist.—John R. Walker, Fort Madison	1920
2nd Dist.—Lawrence W. Littig, Davenport	1922
3rd Dist.—Wm. A. Rholf, Waverly	1921
4th Dist.—Paul E. Gardner, New Hampton	1919
5th Dist.—George E. Crawford, Cedar Rapids	1918
6th Dist.—Smith A. Spilman, Ottumwa	1918
7th Dist.—Channing G. Smith, Granger	1919
8th Dist.—J. Frank Aldrich, Shenandoah	1919
9th Dist.—Alfred L. Brooks, Audubon	1922
10th Dist.—Watson W. Beam, Rolfe	1921
11th Dist.—Giles C. Moorehead, Ida Grove	1920

Trustees

J. W. Cokenower, Des Moines	1919
D. H. Bowen, Waukon	1918
T. E. Powers, Clarinda	1920

Delegates to A. M. A.

L. W. Littig, Davenport	1918
M. N. Voldeng, Woodward	1918
W. B. Small, Waterloo	1919

Alternate Delegates

D. H. Bowen, Waukon	1918
J. Lynn Crawford, Cedar Rapids	1918
G. N. Ryan, Des Moines	1919

The next meeting of the Iowa State Medical Society will be held at Fort Dodge, May 8, 9, and 10, 1918.

The minutes of the Sixty-Sixth Annual Session and the transactions of the House of Delegates will appear in the July issue.

COMMERCIAL EXHIBIT AT THE 1917 SESSION

The Sixty-Sixth Annual Session of the Iowa State Medical Society was a decided success from practically every viewpoint, not the least of which was the Commercial Exhibit feature. We feel that the Committee on Arrangements was particularly fortunate in at least two respects: first, in having the services of two local men who were experienced in this

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branch of state society work; and, second, an almost ideal space in which to house the exhibit.

To Dr. A. P. Stoner, of Des Moines, largely, if not entirely, belongs the credit of placing before the 1917 session the large array of exhibit material.

Realizing that the average physician usually combines business with pleasure when away from home, considerable effort was expended by those in charge to bring as many reliable and reputable firms before the session as space would permit. So anxious were many firms to exhibit that months before the May meeting many letters were received making inquiries as to the possibility of there being an exhibit feature and of securing space in case thereof. From an almost unknown quantity, the exhibit feature has developed with great strides, and the culmination of the magnificent display of medical and surgical goods this year readily shows the trend of the times, i.e., the medical man must be "shown" before he is going to part with his money.

As far as could be determined the relation between "our Commercial Exhibitors" and the committee in charge was highly amicable. Everyone seemed pleased, and while some salesmen reported light sales, none went away dissatisfied. "In all that is Good Iowa Affords the Best," still remains true, and it is a source of pride to the arrangement committee to know that its efforts in bringing together upon a common platform various medical and surgical firms and the physicians of Iowa, were not in vain, but that both parties were mutually benefitted. The following firms were represented:

Merry Optical Company, Des Moines branch.
Allison & Co., Indianapolis.
Sharp & Smith, Chicago.
Wm. Meyer Company, Chicago.
Geneva Optical Company, Des Moines branch.
Standard Chemical Company, Des Moines.
Victor Corporation, Des Moines branch.
Phillips Chemical Company, New York.
Standard Emulsion Company, New York.
Olsen's "Shop for Women," Des Moines.
Horlick's Malted Milk Company, Racine.
A. S. Aloe & Company, St. Louis.
Geo. W. Brady & Company, Chicago.
W. G. Cleveland Company, Omaha.
Borden's Condensed Milk Sales Co., New York.
H. G. Fischer & Company, Chicago.
The Retreat, Des Moines.
Dr. Weirick's Sanitarium, Rockford, Ill.
Earnshaw Knitting Co., Chicago.
The Hynson Wescott & Dunning Co., Baltimore.
P. Blakiston's Son & Company, Philadelphia.
The Abbott Laboratories, Chicago.
Mosby Company, St. Louis.
Willows Maternity Sanitarium, Kansas City.
Northwest Fruit Product Company, Salem, Oregon, Olympia Washington,
Noyes Bros. & Cutler, St. Paul.
Onyxite Company, Davenport, Iowa.
Weder Mfg. Company, Philadelphia.

COMING MEETINGS

AUSTIN FLINT-CEDAR VALLEY MEDICAL SOCIETY ANNUAL MEETING, WATERLOO, IOWA, JULY 10-11, PROGRAM

Tuesday, July 10, 1:00 P. M.

Paper—J. C. Wright, Clear Lake.

Heart Disease in Children—T. N. Walsh, Hawkeye.

The Classification of Nephritis—W. L. Bierring, Des Moines.

Some Suggestions for the Handling of Compound Fractures: A Review of Six Months Experience in a Base Hospital, Illustrated by Lantern Slides—John Buchbinder, Chicago.

The Significance of Mucous Membrane Disturbances in the Upper Respiratory Tract—Frank G. Murphy, Mason City.

Tuesday Evening, July 10

Some Appropriate Entertainment — Waterloo's Way of Doing it.

Wednesday, July 11, 9:00 A. M.

Diagnosis of Gastric and Duodenal Ulcer—W. W. Bowen, Ft. Dodge.

Symptoms of Acute Osteomyelitis; Based Upon the Analysis of Case Histories—H. L. Beye, Iowa City.

Consideration of Choice of Operation in Cholelithiasis—J. E. O'Keefe, Waterloo.

Paper—O. J. Fay, Des Moines.

Business Session—Annual election of officers.

Wednesday, July 11, 1:00 P. M.

Poliomyelitis and its Early Diagnosis—Chas. R. Ball, St. Paul.

Paper—H. Z. Giffin, Rochester.

Symposium on Intestinal Obstruction—

(a) Obstruction of the Bowels, Differential Diagnosis—George Kessel, Cresco.

(b) Mechanical Intestinal Obstruction—M. J. Kenefick, Algona.

(c) Post Operative Intestinal Obstruction, Treatment—L. W. Littig, Davenport.

SOCIETY PROCEEDINGS

At the meeting of the Audubon County Medical Society held May 24 at Audubon, the following resolutions were passed:

We hereby endorse either of the two following plans for reimbursing members of our profession who enter service of the army or navy.

1. We, each of us pledge to pay $5 per month for each member of our society who is in the service.

2. We, each of us, pledge to pay one-third of the fees collected for service to absent members' regular patients while said member is in the service.

A regular meeting of the Cerro Gordo County Medical Society was held at Mason City, May 29, meeting was called to order by the president, Dr. C. L. Marston, of Mason City.

Dr. L. E. Newcomber, of Mason City, gave an interesting talk on the subject of The Prevention of Rheumatism. He discussed the etiological factors in regard to local foci of infection, and showed the importance of having these foci eliminated before permanent relief could be expected.

C. E. Dakin, of Mason City, presented clinical reports of a number of surgical cases. Each of these demonstrated that a very careful examination is needed in every case.

At the close of the meeting Dr. G. C. Stockman gave a report of the House of Delegates of the Iowa State Medical Society.

The annual meeting of the Crawford County Medical Society was held at the commercial club rooms, Denison, May 1. Dr. J. M. Glynn, of Vail, was elected president and Dr. W. T. Wright, of Denison, secretary.

The Fremont County Medical Society held its regular annual meeting May 7, with Dr. J. M. Lovelady, of Sidney. The following officers were elected: President, B. B. Miller, Tabor; vice-president, J. M. Lovelady, Sidney; secretary-treasurer, A. E. Wanamaker, Hamburg.

The Grundy County Medical Society met at Grundy Center, May 29. Every town in the county was represented in the attendance. Medical Preparedness was the subject discussed.

The quarterly meeting of the Jones County Medical Society was held April 27 in the Auditorium of the public library, at Monticello, Dr. Howard L. Beye, of Iowa City, who was the guest of the society, read a paper on Infections of the Hand, illustrated with lantern slides. The paper was discussed by Dr. A. G. Hejinian, of Anamosa, and Dr. C. G. Thomas, of Monticello.

The next meeting of the society will be held at Anamosa in July.

The Lee County Medical Society met in regular session at Keokuk, May 3.

The program for the afternoon session was:

Toxemia of Pregnancy—Wm. Rankin, Keokuk.

Acute Inflammation of the Nasal Accessory Sinuses—R. S. Remiers, Fort Madison.

Treatment of Fractures of the Long Bones—F. B. Dorsey, Jr., Keokuk.

Ductless Glands—J. M. Casey, Fort Madison.

The regular meeting of the Polk County Medical Society was held Tuesday evening, May 29 at the Savery, Des Moines. A very scientific program had been prepared, consisting of a symposium on The Differential Symptomatology of Chronic Interstitial Parenchymatous and Chronic Suppurative Nephritis. The Cardio-Vascular phase was presented by Dr. W. L. Bierring while the Digestive Disturbances due to renal pathology was presented by Dr. G. H. Alden.

Dr. Julius Weingart gave the Urologic phase of the subject. The essayist first called attention to the impossibility of correlating clinical pictures with anatomic and histologic findings in nephritic kidneys. He showed that the problem in nephritis is a physiologic one and that only when the factors involved in the production of edema, hypertension, and uremia are fully understood, will a proper classification of the nephritides be possible. He also spoke of the limitations of urinalysis, and called attention to the fact that, in formulating a diagnosis, it should be considered only in the light of the other findings. The modern tests for renal efficiency were mentioned. Elaborate urinalysis, with estimation of chlorids, phosphates, sulphates, urea, uric acid, etc., were pronounced ridiculous. Even when performed upon twenty-four hour collections, they were considered of no value except in conjunction with the most accurate study of the patient's diet.

Dr. Russel Doolittle closed the symposium with a paper on Kidney Disease and its Relation to Neurology and Psychiatry.

His paper first called attention to the relations existing between different organs and different organ systems, and to the arbitrary method of dividing the practice of medicine between the various specialties. Then followed a discussion of nervous anatomy and physiology and of the various conditions where disturbances of the nervous system are associated with kidney disturbances. Among those mentioned were neurotis albuminuria, albuminuria following severe cerebral storms, such as apoplexy and epilepsy, functional kidney disturbances seen with depressed or excited mental states, Folie Britique, uræmia and diagnosis of convulsions, coma and paralyses of uræmic origin, changes in ophthalmoscopic picture in nephritis, and necessity of differentiating these conditions from similar ones found in connection with nervous diseases, together with the prognostic significance of the ophthalmoscopic picture in nephritis.

The Worth County Medical Society met at Fertile, May 16, with a large representation present. After the business session, a picnic supper was enjoyed. The next meeting of the society will be held at Northwood, June 13.

The Des Moines Valley Medical Association held its forty-sixth annual session at Ottumwa, May 31, under the presidency of Dr. C. B. Taylor, of What Cheer. Following the morning session a luncheon was served at the First Presbyterian church. About sixty physicians and surgeons were in attendance. The program was:

Invocation—Rev. Chas. G. Berger.

A Plea for More Rational Treatment for Diseases of the Heart—E. D. McClean, Oskaloosa.

Traumatic Rupture of the Intestines with a Report of a Case—E. F. Talbot, Grinnell.

President's Address—C. B. Taylor, What Cheer.

Urotropin as a Urinary Antiseptic in Scarlet Fever —R. B. Stolp, Winnetka, Ill.

Some Experiences in Prostatectomy—W. A. Allen, Davenport.

The Neglected Prostate—Carl W. Wahrer, Ft. Madison.

The Causes of Death Following Suprapubic Prostatectomy—John L. Crenshaw, Rochester, Minn.

Gastric and Duodenal Ulcer with Emphasis on the Etiology—C. A. Aldrich, Winnetka, Ill.

Eugenics—M. N. Voldeng, Woodward.

The Waterloo Medical Society held its annual meeting at Waterloo, May 8. A banquet was enjoyed at the Russell-Lamson Hotel. Dr. John G. Bowman, of the American College of Surgeons, Chicago, was the guest of the society. Dr. T. U. McManus, Waterloo, acted as toastmaster. Dr. Guthrie McConnell responded to the toast, "The Altruistic Profession;" "The Doctor as a Patriot," was responded to by Dr. F. W. Powers, and Dr. J. E. Ridenour responded to the toast, "A Man's Man."

Dr. J. G. Bowman addressed the society. As a director of the American College of Surgeons, Dr. Bowman briefly spoke of the organization of the institution a few years ago and of its object to enlist the services of the best men of the medical profession of this country that higher ideals in American medicine and surgery might be promoted. He dwelt at some length upon the importance of hospitals and hospital training for future physicians; and pointed out the value received by interns during their terms of service in the various hospitals of the country, and of the immense value received in a clinical way by men who carefully worked out, in detail, the various cases coming under their service.

At the meeting of the society held May 16, Dr. William Jepson, of Sioux City, gave a very interesting talk on medical preparedness.

MARRIAGES

Dr. Judd C. Shellito, to Miss Margaret Clark, both of Independence, May 22.

Dr. Henry H. Abegg, to Miss Sadie Mullin, both of Dougherty, May 20.

Dr. Floyd H. Fillenworth, of Melvin, to Miss Louise Fischer, of Iowa City, at Iowa City, May 7.

Dr. E. A. Carberry, of Maynard, to Miss Flora MacRae, of Minneapolis, at Minneapolis, May 15.

BIRTHS

Dr. and Mrs. C. C. Rambo, of Kent, May 11, a daughter.

Dr. and Mrs. G. A. Jardine, of New Virginia, April 23, a daughter.

Dr. and Mrs. G. S. B. Yates, of Des Moines, May 20, a daughter.

DEATHS

Richard Louis Stuart, M.D., aged sixty-four; College of Physicians and Surgeons, Keokuk, 1874; member of Polk County and Iowa State Medical Societies; a practitioner in Des Moines for thirty-three years; died at his home in Des Moines, May 15, from arterio-sclerosis.

Franklin J. Evans, M.D., aged seventy-two years; University of Pennsylvania, School of Medicine, 1884; Fellow of American Medical Association; member of Hardin County and Iowa State Medical Societies; a veteran of the Civil War; one of the pioneer physicians of Iowa Falls, where he practiced for forty-two years, died at Friday Harbor, Washington, where the family had just located, May 22 from cerebral hemorrhage.

Lee M. Nusbaum, M.D., aged fifty-three; Northwestern University Medical School, 1893; member of Buena Vista and Iowa State Medical Societies; president of board of trustees of Buena Vista College; member board of education of Storm Lake; local surgeon for Chicago, Milwaukee and St. Paul Railway; a practicing physician at Storm Lake for eighteen years, died at his home in Storm Lake May 6, after a week's illness, from erysipelas.

CHANGES OF LOCATION

Dr. H. H. Clark, of Burr Oak, will remove to Prosper, Minnesota.

Dr. J. W. Lauder, of Des Moines, will remove to Afton.

Dr. F. F. Winsell, of Dexter, has removed to Clarence.

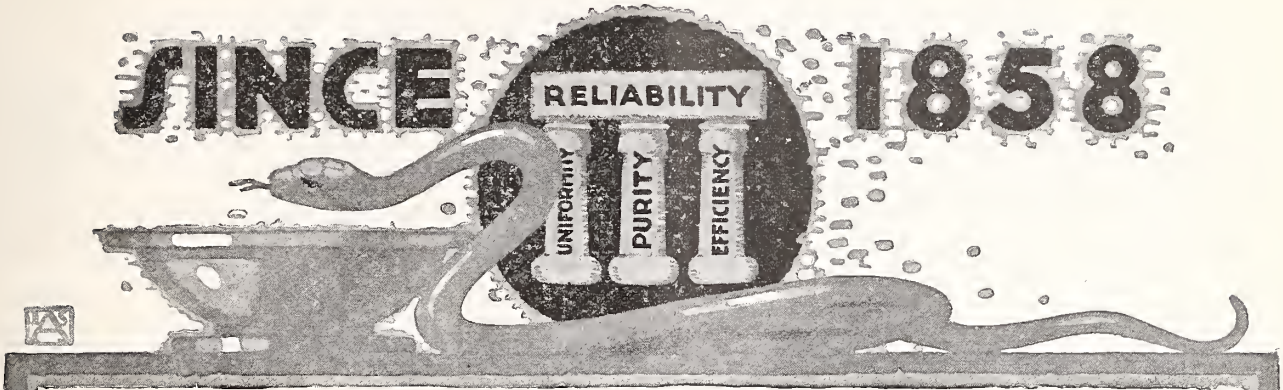
AFLOAT AND ASHORE

Two new products which are attracting unusual attention, both in this country and abroad, are chlorazene (Abbott), Dakin's new antiseptic, and parresine (Abbott), the improved, hot-wax dressing for burns. Both of these remedial agents have been passed by the Council of Pharmacy and Chemistry of the American Medical Association, to appear in their "New and Non-Official Remedies," and have been ordered by the United States navy to be placed on every ship.

The results which are reported by surgeons and hospitals in the use of chlorazene and parresine are so remarkable that it would surely pay every physician to become better acquainted with these products.

Literature will be sent on request. The Abbott Laboratories, Chicago, Illinois.

FOUND—At Shrine Temple at the 1917 session of the State Society, a Masonic Blue Lodge charm attached to leather pennant. Owner may obtain same upon identification at the office of the secretary, Tom B. Throckmorton, 402 Equitable building, Des Moines.



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NEW YORK

WITH OUR ADVERTISERS

The nutritive value of whole wheat as a permanent article of diet has long been known and its use has been advocated by physicians for years. One objection of the past has been the unpalatableness of the usual forms and especially has this been true in the feeding of children.

It is interesting to note the change in the attitude of the child since the popular invention of Prof. A. P. Anderson, (puffed wheat) has been marketed. No longer does the junior member of our household refuse. Quite the contrary—he demands.

The invention itself is no less interesting. Sealed in guns, the whole grains of wheat are revolved for an hour in 550 degrees of heat. Thus the moisture in each food cell is turned to super-heated steam. When the guns are shot these food cells—over a hundred million per kernel—explode. The whole wheat grain is transformed into thin, airy, flaky bubbles, eight times their normal size.

By this remarkable process, the Quaker Oats Company, of Chicago, has received the endorsement of physicians for their product.

THE WHOLESOMENESS OF GELATINE

Gelatine is said to be a wholesome article of diet because of a rather peculiar property. While it is not, as some suppose, a good substitute for albumen or protein foods, it has the faculty of saving albumen in the body from destruction. It dissolves more easily than albumen and acts as a guard between albumen and the body fluids which would destroy it. It thus saves albumen to the body, which is equivalent to supplying new albumen. In addition to this indirect nutritive value, gelatine provides a most valuable means for conveying other kinds of nourishment in an appetizing and easily digested form. This is well illustrated in the case of persons who cannot assimilate ordinary milk readily, but the moment gelatine is added find it easily digestible. Gelatine is used today in many ways not ordinarily supposed. It is used in French soups, in the preparation of cold bouillon and consomme, in jellies, jams, candy, ice cream—as well as the well known dessert preparations. It is also used extensively in many dishes for the sick and convalescing.

In the jelly powders of commerce an incidental pure food problem arises in the matter of flavoring materials. The fruit flavorings that are mixed in powdered form with the powder are sometimes not made from the actual fruit juices, but are synthetic and subject to some of the criticisms that have been made of synthetic flavorings used at soda fountains.

Probably the only manufacturer who has entirely overcome the flavoring difficulties is Mr. Otis E. Glidden, for seventen years the leading expert in gelatine desserts, and now general manager of the Waukesha Pure Food Company, makers of the new Jiffy-Jell. He has put all his years of experience into this dessert and in addition to guaranteeing an ultra-superior grade of gelatine made by special processes in what is termed the model kitchen of the world, actual fruit flavors are furnished in liquid form, small glass vials of concentrated fruit juices being enclosed in the packets of gelatine.

The Journal takes this means of calling its readers attention to the wholesomeness of gelatine and to the particular brand known as "Jiffy-Jell," an announcement of which appears in the advertising section of this issue.

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The Journal of the Iowa State Medical Society

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ADDRESS OF THE PRESIDENT OF THE STATE SOCIETY OF IOWA MEDICAL WOMEN, MAY 8, 1917*

Lily Kinnier, M.D., Dubuque

I feel that in addition to thanking the Society for their confidence in electing me to the chair, that I should also apologize for appearing the second time within two years with a president's address, as I feel sure that some of you remember that I bored you with one last year, after a non-successful effort to obtain one from our president who was in China. I now wish to make amends by cutting this short—thus making more room for something really good.

However, I cannot resist saying something on one of the questions discussed last year, "The Need in Iowa of Day Schools for the Deaf and Blind."

To me this subject seems very important, for the reason that in my work I am constantly coming in contact with children who are being neglected for want of such provision in this state.

When I spoke of this at the last meeting, the first question that arose in your minds doubtless was, "Are these schools really needed? Do the schools which are now in existence, reach all the deaf and blind that our compulsory education laws provide for?" We all know the answer.

Wisconsin now leads all the other states in the proportion of deaf and blind children attending school. But why? Because Wisconsin brings the schools to the children. Their method is briefly as follows:

When the board of education in a city or village finds that there are several deaf children in the community, such board has only to apply to the state superintendent for permission to organize a school for the benefit of these children. Upon receipt of such a request the superintendent will issue a certificate of organization and the school may be opened.

At the close of the school year, the board reports to the state superintendent the names of the pupils who have enrolled together with the number of days each pupil has attended. The superintendent then allows one hundred and fifty dollars for each pupil who has attended 180 days and for other pupils, a proportionate part of this sum. In these schools even those who are congenitally deaf, are trained to use their organs of speech. They are constantly associated with hearing people and play with the hearing children on the playground.

This constant companionship together with the instruction in speech and lip reading, tends to make the deaf child as nearly like the hearing child as possible.

Also the nearness of the day schools for the deaf to the homes of the children, enables the parents to be in daily or almost daily communication with their little ones—a very important factor,—for many parents will not send their small children away from home. If this is true, and if we cannot compel parents to break home ties and send their small children to schools where they can be educated, is it not our duty to bring the schools to them?

If kindergartens and early school training are necessary for normal children, are they not still more necessary for the deaf and blind? For instance, allow the period when the deaf child has an instinct for speech to pass without stimulation and the desire will disappear. At certain ages the various faculties of the brain develop most naturally. It therefore becomes obvious that the deaf child needs a teacher well schooled in the knowledge of the child's mind, as well as one who is competent to teach speech and lip reading. The proper thing to do, therefore, is to place the deaf child under the care of the most competent teacher available, at the earliest possible time, certainly before the sixth year.

In fitting the deaf child to earn his living, it is of the greatest importance to give him the power to communicate with others—with hearing people. He must be able to talk, for very few business men and women will take the trouble to communicate in writing. It takes too much time and is too laborious.

*Delivered before the Iowa Medical Women, Des Moines, May 8, 1917.

There can be no greater handicap to an individual than the inability to earn an honest living, and we all know that this handicap often exists in the form of excessive and incurable deafness.

Some one has said that the best time to cure deafness is before it begins, and certainly all of our modern methods of treatment deal chiefly with those who are only partially deaf.

There still remains the great number who are suffering from an advanced degree of deafness, for whom, up to the present time, we have had nothing of encouragement to offer.

At present auditory re-education by means of sonorous vibrations is being advanced as a means of encouragement, but as yet it is only an experiment.

When the parents of a deaf child bring him to a physician, they desire first of all that the child's hearing be restored. If this cannot be accomplished, they then desire to enable the child to speak and to understand when others speak to him, and right here the responsibility of the physician begins.

These children are dependent on the physician for the advice which will lead to their proper training in speech and lip reading.

It seems to me that if a physician to whom parents take a little deaf patient, is satisfied with merely telling them that the child is incurably deaf, that there is absolutely no chance of improving his condition, that he must be educated in a state institution, that that physician is not only failing in duty, but is giving them two blows in just about as quick succession as one can follow another; the first being, that there is no help for their child, and the second being that they must be separated from him during the next few years.

I think that we should take time to explain to the parents that if the child is trained during these early years to associate ideas with the visible movements of speech, he will be able to live a normal life among hearing and speaking people.

We should make them feel before they leave the office that we are not only willing, but anxious to keep in touch with them and to enable them to find a school in which their child can be educated.

But, (in Iowa), right here comes the tug of war. How many parents feel that they can send a little child under five years of age, to a state institution?

We have in Iowa an excellent school, but it does not reach all the deaf children that our compulsory education laws provide for. Also, we physicians, as well as the parents, realize that it is the home life that develops the child's character, and fits him to become a contented member of the family, while it is his mental, physical and industrial development that will train him to become a useful member of society at large.

Where then, can we get this combination except in a day school where he has an opportunity to practice and apply outside of school what he has learned there? At home he is entirely dependent upon speech reading and a few natural gestures. At an early age he is sent on errands, is sent to school with the neighboring children and returns with them, thus depending on the speech movements of those with whom he comes in contact. He in return makes himself understood, and this all gives him confidence in himself and the power to meet the problems of life. He differs from the normal child only in respect to his deafness and consequent incapacity for the acquirement of knowledge without special assistance, and if an effort is made at home by the members of his family to make the visual and tactile centers of the brain take the place of the inoperative hearing center, a vast amount will be accomplished outside of school.

A teacher in a day school has the opportunity of meeting the parents of her pupils, and can impress this fact upon their minds. She can explain to them that such children should be talked to and talked at as much as possible on every occasion, in other words, that he should have more attention on account of his condition and not less, as is unfortunately usual in some families.

The same is also true of the blind child.

Many parents will not send their helpless little blind children away from home, especially at as early an age as their education ought to begin, and some will not consider parting with them at all.

Wisconsin at first allowed $150 for each blind pupil who attended school for nine months of the year, but two years later, increased their appropriations to $200 in order that it might cover instruction in music and manual training. In these schools the children are taught by means of the Braille Point System which employs an alphabet consisting of points made by pressing a stylus against a stiff piece of paper. By arranging points of this character in different positions, the blind are taught to read and cipher. To enable them to use the Braille alphabet, they are furnished with Braille slates in which they place a sheet of paper, and by means of a stylus, do the writing, making use of this slate as we would a tablet of writing paper. They also have Braille typewriters and learn to use them very skillfully. A sort of slate has been invented which enables the blind child to print by hand, using the ordin-

ary capital letters, enabling them to prepare written work for seeing people.

In the study of geography the pupils make use of maps in which the outlines of rivers, cities, etc., are indicated by points. In mathematical calculations the number slate is used, this being a shallow box partitioned off with squares. Wooden cubes or types bearing the digits in points are arranged in these squares to express numbers. The children prepare their lessons in the special department for the blind, under the direction of a trained teacher, but each of the children in the school for the blind (which is housed in a regular public school building) is enrolled in one of the regular grades of that building.

When the recitation time comes, the children go from this department to the various rooms where they are enrolled and recite with the seeing children. If it is a written recitation, the blind child uses his Braille slate and if it is a recitation in arithmetic the child uses the number slate. If it is an oral examination, he is on an equal footing with the child who sees, since he is able to hear and speak. The blind children are happy and contented because they are able to recite with and do the same kind of work the normal children are doing.

Their sense of hearing enables them to find their way about the building and according to reports, it is seldom that they hurt themselves in any way by running into people or things. In addition to the academic work, they are taught beadwork, basketry, carpet weaving and music.

In case some of you may think that I have devoted an undue amount of attention to the subject of deafness, I would like to quote a few words of Dr. G. Hudson McKuen. "Blindness is a great calamity to the young and old, but deafness is a far greater one, especially when it occurs in children. Good vision is a convenience in the intellectual development of the child, but good hearing is an absolute necessity. Blindness affects but a single cortical center of the brain, namely that of vision, while deafness affects two cortical centers, that of hearing directly, and indirectly that of speech; and of all the cortical centers, these two are probably the most important. The sense of touch may be substituted for that of vision with proportionately little detriment to mental development and intellectual progress; but even the modern methods of teaching the deaf child have not succeeded in furnishing a satisfactory substitute for the sense of hearing, while in the untaught deaf child, the brain tissue, which forms a basis for all intellectual progress, actually suffers arrest of development to such an extent as to be demonstrable by means of the tape measure and scales.

In reading Susan Glaspell's story, "The Hearing Ear" my attention was arrested by her comparison. "It's strange—the difference in our attitudes toward the deaf and the blind. The blind arouse all our tenderness, our chivalry, but we seem to resent deafness and often we dislike the people who bring us into relation with it. The mistakes of the deaf strike us as funny; we'd hate anyone who laughed at the fumblings of the blind. It doesn't speak very well for us, but I've come to the conclusion that we find deafness irritating simply because it makes trouble for us."

We don't like the awkwardness of stating our ideas in a loud voice, but we seem to think because they don't hear well, there's something the matter with their understanding.

Today three-fourths of all the pupils in all the schools for the deaf in the United States are taught speech and speech reading, and pupils born deaf, have graduated not only from high schools for the hearing, but from Harvard and Columbia and other great institutions.

I feel sure that we are all proud of the work along educational lines for afflicted children which we are beginning to accomplish in this country.

A good start has been made and we hope the time will come when the deaf and blind children will be given the education which will fit them for their life work.

During the past year, this subject has been given considerable attention throughout this state, and I trust that before long we shall have several day schools in Iowa for these children.

Later

Since writing the above, the state has made an appropriation of eleven dollars a month for each deaf child so that it will now be possible to start a day school in any community in which there are seven or eight deaf children.

As yet nothing has been done in Iowa in regard to day schools for the blind, but that will come in due time.

WRIST INJURIES FREQUENTLY OVERLOOKED*

Howard L. Beye, B.S., M.D., Iowa City

The diagnosis of sprain of the wrist without the supporting negative evidence of satisfactory skiagraphs should be made only after considerable deliberation. The patient has the right—both moral and legal—to the aid which may be

*From the Department of Surgery, College of Medicine, University of Iowa.

given by this recognized method of diagnosis, and any injury case which presents a doubt regarding the presence of a gross bone lesion must be given the benefit of x-ray diagnosis.

The most common mistake made is in Colles fracture, especially the impacted variety with little deformity. In the last few years, fractures and dislocations of the varies carpal bones have been recognized which previous to the routine use of the x-ray[1] were considered sprains of the wrist. Recognition of these conditions is extremely important, for if neglected the function



FIGURE I—Fracture of the scaphoid bone.

of the wrist and the earning capacity of the hand are liable to be materially reduced.

The most frequent injuries to the carpal bones are fracture of the scaphoid bone and dislocation of the semilunar either as individual lesions or associated with injuries of adjacent bones.

Fracture of the Scaphoid—This is usually produced by a fall on the outstretched hand, similar to a Colles. This is followed by severe pain, tenderness, some swelling over the wrist and more or less loss of function.

The patient may neglect consulting a physician until several days have elapsed—believing that he has sprained the wrist. In too many cases, however, the diagnosis of sprain is made by the physician who sees the case either shortly after the accident or at a later time, and only when the condition refuses to improve with liniments and massage is a correct diagnosis made by the use of the x-ray.

Diagnosis may be made positively in some cases by the characteristic findings, while in others enough suspicion is raised to warrant the demand of x-ray pictures. In all cases of suspected fracture it is very important to compare the sound wrist with the injured one in order to detect slight swelling and variations in normal land marks.

The diagnostic points as brought out so clearly by Codman and Chase[2] are: First—The history of a fall on the extended hand. Second—Pain, which is referred to the radial half of the wrist, is elicited by active or passive extension and abduction of the hand, particularly the latter, and may be intolerable. It is this persistent symptom which brings the patient to the physician in the old unrecognized cases. Disturbance of function is variable and depends upon the pain. Third—Swelling on both the dorsal and palmar aspects of the wrist but most marked in the radial half and especially over the anatomical snuff box. This persists although much diminished in the neglected cases, but should give a clue to the diagnosis. Fourth—Tenderness is definitely and characteristically localized over the scaphoid bone. This is elicited on the dorsum of the wrist, in the anatomic snuff box, or on the palmar surface just distal to the radius. This is the most important single point in the diagnosis of fracture of the scaphoid bone, with the exception of the x-ray. Great care must be used to localize the tenderness definitely and to differentiate the tenderness of a lacerated joint capsule, or a fractured radius. Repeated comparisons with the sound wrist should be made to make sure of the normal landmarks. Fifth—X-ray will show the lesion in most cases, the majority of fractures being transverse to the long axis of the bone and in the middle third. It is best to take the injured and normal wrists on the same plate and in the same position for comparison. The x-ray should not be considered negative in a suspected case unless good clear plates are obtained and the in-



FIGURE II—Dislocation of the semi-lunar bone, antero-posterior view (right).

1. In the third edition of Stimson's "Fractures and Dislocations" published in 1900 he states in speaking of fractures of the carpal bones "only a few cases have been reported in which the nature of the injury was shown by direct examination, and I have met with only one case in which diagnosis was made during life."

2. Annals of Surgery, May, 1905.

terpreter is experienced. Furthermore it should be emphasized that a negative x-ray finding does not rule out fracture.

Crepitus is not present and ecchymosis is absent or only slight.

Treatment—Immobilization of the wrist by cast or splint for three weeks will usually produce union. In neglected cases union does not occur. In ununited cases, there is usually such permanent disability that excision of one or both fragments is indicated although the continued use of a leather wrist support may give relief.

Report of Case—C. D. M., student; admitted to outpatient department of University Hospital, January 3, 1917.

History—One week ago patient fell backward on the outstretched hand. He had considerable pain at time of accident, and swelling of the wrist, especially at the base of the thumb. He believed he had sprained the wrist and did not consult a physician until coming to the hospital because of the continued pain and throbbing.

Examination—Tenderness diffuse but slight over the line of the wrist joint. Definite marked tenderness present over the scaphoid bone, especially on the palmar surface of the wrist below the styloid process of the radius; also upon pressing on the scaphoid through the anatomical snuff box. This was so characteristic and well localized over the scaphoid, that taken in conjunction with the type of injury, a diagnosis of fracture was made.

Pain referred to the wrist at base of thumb on abducting the hand. This was immediately relieved by adduction. Extension was also quite painful and flexion less so. The range of motion was decreased. No crepitus was present.

Moderate swelling over the radial side of the wrist, on both the dorsal and palmar aspects.

X-ray showed a transverse fracture through the middle of the scaphoid bone, with a slight tilting forward of the distal fragment. (Plate I.)

Cast applied from fingers to elbow for one month.

Result—Four months after injury, patient reports slight restriction of extension of hand and some pain on twisting the wrist. He is able to do all his work and feels that the wrist is improving continually.

Dislocation of the Semilunar Bone[3]—This too is usually produced by falling upon the outstretched hand. In this position the semilunar bone is at an angle of 45° with both the os-magnum and the radius and the force applied to it squeezes the bone anteriorly out of its normal position. It may also be dislocated by force applied to the hyper-flexed hand as in the case reported below, or by direct force to the dorsum of the wrist.

3. Runyon—Dislocation of Semi-lunar Bone. Surgery, Gynecology and Obstetrics. Vol. xx, January, 1915, p. 60.

Immediately after the injury there is great pain in the wrist and rapid swelling which is more marked on the radial half of the wrist. The fingers are partially flexed and considerable pain is elicited on attempting to extend them. There is almost complete loss of function of the wrist.

If the swelling is not too great, a deformity not unlike the silver-fork deformity of a Colles fracture will be present. This is due to the prominence of the os-magnum on the dorsum of the wrist.

On palpation the prominence of the os-magnum can be made out dorsally, and just above it a



Figure III—Dislocation of the semi-lunar bone, lateral view (right).

depression where the semilunar should lie. On the palmar surface of the wrist the indefinite enlargement due to the displaced semilunar bone may be palpated under the tense flexor tendons.

The normal relation between the styloid processes of the ulna and radius is unchanged which is an important point when Colles fracture is considered.

X-ray pictures should be taken of both the normal and injured wrists and both in antero-posterior and in lateral planes. The dislocation will be detected usually from the lateral views and will show the semilunar bone lying anterior to the rest of the carpal bones and usually tilted so that the surface which should articulate with the os-magnum points toward the flexor tendons. In the antero-posteror views the bone may be seen to overlie somewhat the os-magnum which is forced closer to the radius than normally.

Complicating fractures of the radius and carpal bones may occur and must be recognized.

Treatment—In the recent cases, reduction may be obtained by steady forceful traction upon the hand with hyperextension of the wrist. At the same time direct force is exerted upon the semilunar bone from the palmar surface and then the wrist is flexed. Failure of reduction calls for an

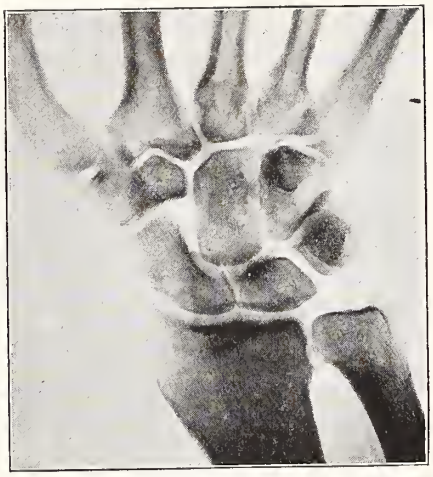


FIGURE IV—Same case as shown in figures II and II. Normal wrist (left).

open operation with reduction. In long standing cases resection or excision of the bone may be the only recourse.

Report of Case—E. D., age twenty-four, contractor. Referred to surgical clinic by Dr. F. W. Logan, Fenton, Iowa, February 10, 1917.

On May 12, 1916, patient fell eighteen feet from a scaffold and alighted upon the right hand, full flexed. A physician examined the case soon after the accident, and diagnosed a sprain, and no protective dressing was applied. It swelled considerably and was very painful for days. This continued until finally in July an x-ray was taken and the correct diagnosis made. He came to the hospital because of pain, and weakness of the grip, eight months following the injury.

Examination showed a grip about ¼ of the opposite. There was marked pain and limitation of motion on flexing the middle finger. There was about 65 per cent. of normal range of flexion and extension of the wrist. On the dorsum just below the radius was felt an abnormal bony prominence and on the palmar surface of the wrist under the flexor tendons another bony prominence was present. This latter seemed to be somewhat moveable and it was moderately tender to pressure.

An x-ray showed an anterior displacement of the semi-lunar bone with rotation of the bone forward. (Plates II and III.)

Operation was advised. An incision was made just medially to the flexor group of tendons in the wrist and they were retracted laterally. The profundus tendon of the middle finger was found adherent to the displaced bone. This was freed. The semilunar was found dislocated forward and tilted forward so that the articular surface for the os magnum was the facies to which the flexor tendon had become adherent. Reduction was deemed impossible so excision was done.

Good operative recovery.

It is too soon to report upon the functional result.

FRACTIONAL GASTRIC ANALYSIS*

MEREDITH MALLORY, M.D., AND L. K. MEREDITH, M.D., Des Moines

The analysis of the stomach contents has become a much more accurate procedure since Rehfuss published his work on the method of fractional extraction. While it requires a little more time to use this method, still it is very practical for general use and can well be used in routine office practice with little inconvenience.

The tube which has been used in our work is an ordinary duodenal tube, the size of a French No. 16 catheter, with a metal bulb about the size of a ten grain capsule on the gastric end. The other end is fitted with a stop cock. For the purpose of extracting the gastric contents, a two ounce glass syringe is used.

A regular Ewald test meal, consisting of two slices of bread and two glasses of water has been used in all cases. The tube is inserted with the last part of the meal, or immediately afterward. Usually the patient is better able to swallow the tube while in the sitting position, but is able to

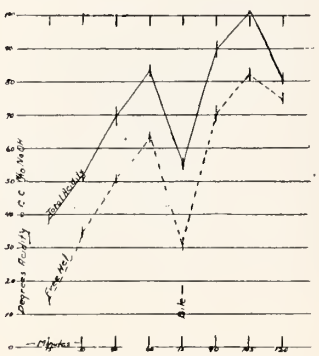


CHART I—Case 4 Colitis

retain it with less discomfort while lying down. The first extraction is done fifteen minutes after the test meal is given and continued at fifteen minute intervals over a period of two or three hours. Each time four to ten cc. of the gastric contents is withdrawn. Then air is forced down the tube to clean it out as thoroughly as possible,

*From Medical Service, Dr. W. L. Bierring, Iowa Methodist Hospital, Des Moines, Iowa.

after which the syringe is washed with water. This procedure is repeated at each extraction. One cc. of each specimen is then titrated against a N/100 sodium hydrate solution, dimethyl-amido-azo-benzol and phenolphthalien being used as indicators. The method of titration and calculation is the same as in the older method. In

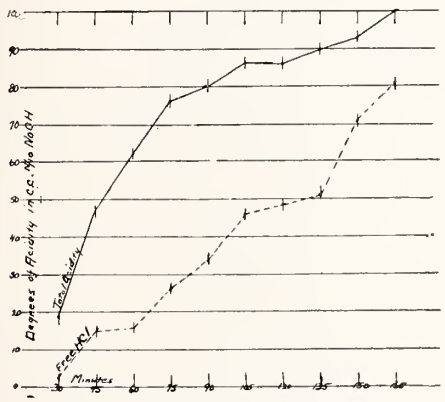


Chart II—Case 9 Gastric Ulcer

some cases a great amount of mucus is present and this interferes considerably with the procedure as seen in case No. 19. The specimens which contain considerable mucus should be titrated at once, as the longer they are allowed to stand, the greater is the degree of error in the free acid result.

Perhaps the greatest advantage in the newer method as outlined above, lies in the smaller tube which is used. The old Ewald tube is not only difficult for the patient to take, but the nervous excitement accompanying its passage, no doubt has considerable influence on the final analysis. This is particularly true in highly nervous individuals and in those patients when more than one extraction is necessary. Furthermore, the patient

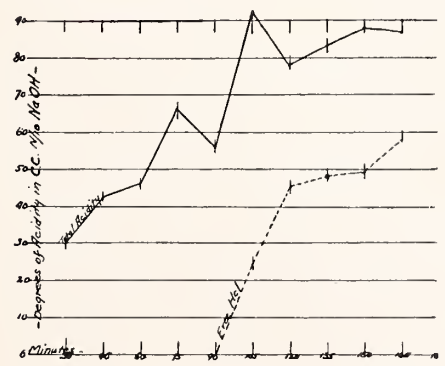


Chart III—Case 18 Delayed Hyperacidity

is not the only one who is relieved, for it is never a desirable responsibility to pass the old style stomach tube on patients who are suffering from certain circulatory diseases, or when pathological conditions of the esophagus are present.

As we are attempting to show, one extraction of a test meal does not give a true picture of the secretory condition of the stomach, except at the very instant the extraction is made. Consequently, to make an accurate analysis of the gastric secretions, more than one analysis must be made; and with the older method, more than one analysis means a repetition of a wholly disagreeable ordeal for both patient and physician.

With the use of the smaller tube, we practically eliminate the excitement which formerly accompanied the introduction of the tube and the patient in most cases, quickly becomes reconciled to its presence, so that the analysis of the specimens obtained, represents more nearly the true secretory condition of the stomach.

In certain cases we have found that if more than one specimen had not been taken, our observations and interpretations as to the particular case in question would have been very erroneous. For example, we will refer to case No. 4. At the seventy-five minute extraction the acidity was

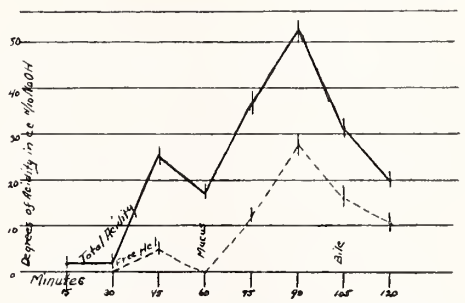


Chart IV—Case 19 Normal Stomach Secretions

within the normal limits, and ordinarily that would have been quite sufficient, but the previous specimen showed a hyperacidity, so we were led to test for the presence of bile and found it to be present. The next specimen extracted showed a return to a condition of hyperacidity. The interpretation of this is that the pyloric sphincter had relapsed between the time of the sixty minute extraction and that at seventy-five minute, allowing some of the duodenal contents to regurgitate into the stomach. This condition was present in several of our cases and seems to come after the sixty minute period. In such cases, if the older method had been used and the stomach contents withdrawn sixty to seventy-five minutes after the ingestion of the test meal, the final interpretation would have been greatly in error.

Another rather interesting and quite convincing condition is illustrated by case No. 18. This type is not infrequently seen and shows a delayed hyperacidity. In this instance there was no free hydrochloric acid until the ninety minute period, from which time it rose to quite a high point. In

this particular case, the gastric findings were very much in accord with the clinical symptoms, as the patient had gastric distress about two to three hours after eating.

Not only do we find a varying degree of acidity in the different specimens, but blood does not appear in every specimen. In case No. 30, blood first appeared at the two hour period and continued to show positive until the end of the test. This case is one of carcinoma of the pylorus. In both carcinoma and in ulcer cases it was found that blood showed up comparatively late in the test. When blood is tested for in each specimen

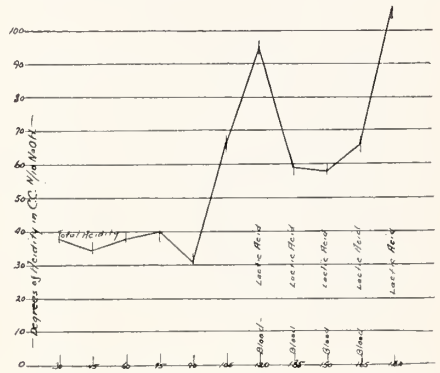


CHART V—Case 30 Carcinoma of Stomach

and shows in some and not in others, we feel quite sure that the presence of the tube has not caused the blood which can not be said of the Ewald method.

In cases of gastric ulcer we find no curve which might be called typical. Each case has some variation, but in all cases the free and total acidity increases rapidly and remains high when the stomach is empty.

With the fractional method we have not changed in any way our former interpretation of gastric analysis, but we do believe a broader and more logical foundation is obtained on which to base the older interpretations, and we think the fractional method of Rehfuss and others is sufficiently practical to replace as a routine the older method of gastric analysis by means of a single specimen.

BLOOD CHEMICAL ANALYSES IN REFERENCE TO DIAGNOSIS AND TREATMENT*

R. B. H. GRADWOHL, M.D., St. Louis, Mo.

Director of the Pasteur Institute of St. Louis and the Gradwohl Biological Laboratories

Methods of diagnosis of internal diseases based upon urinary analyses have long been the order of the day. Not until the advent of the micro-chemical methods of blood analysis, originated by Folin and Denis, did the estimation of the constituents of blood in health and disease become a matter of relative ease and practicability. These methods which have been improved and added to by the work of Benedict and Lewis, Myers and Fine and others, now permit us to make a rather complete survey of an individual's blood, and in a comparatively brief space of time venture a fairly good blood chemical diagnosis of the degree of non-protein nitrogenous retention. These methods are technically simple for those with sufficient chemical laboratory training. They consist of methods for estimating the amount of total solids, total non-protein nitrogen, urea nitrogen, uric acid and creatinine, cholesterol and sodium chloride, and the percentage of sugar. We shall confine our remarks to the tests which we believe admit of reliable interpretation so far as diagnosis and prognosis are concerned. These are: the estimation of urea nitrogen, uric acid, creatinine and sugar. Together with the estimation of the same ingredients in urine, we believe that data are obtainable not hitherto known with respect to the nephritides, gout, diabetes mellitus, renal diabetes and cardiovascular disease.

The admirable results that were obtained with the Geraghty and Rowntree functional kidney test by means of subcutaneous injection of phenolsulphonephthalein do not stand up, strictly speaking, with the results of estimation of kidney function by means of the micro-chemical methods. The phenolsulphonephthalein test is of some relative importance in the diagnosis of the condition of the kidney for the moment, but it does not give the observer the same information concerning the activity of the kidneys over an extended period of time. In the well known work of Frothingham, Fitz, Folin and Denis on experimental uranium nephritis, this point was well proven. They showed that in rabbits the retention of the non-protein nitrogenous blood constituents represented the difference between that *eliminated* and that *produced,* whereas the phenolsulphonephthalein test served as an indicator of *elimination alone.* This represents essentially the difference between the two tests. The result of the phenolsulphonephthalein test does not seem to be influenced at all by the length of time that the kidney may have been in the condition indicated by the test. The amount of non-protein nitrogen and urea nitrogen in the blood is rather a measure of accumulating difference between the waste nitrogen produced in metabolism and the amount eliminated by the kidneys. The time element and the duration of the condition is

*Read before the Southwestern Iowa Medical Society, Creston, February 15, 1917.

therefore an important element in estimating the value of the phenolsulphonephthalein test in comparison with the blood chemical tests.

The Ambard co-efficient of urea excretion is also frequently used and something should be said as to its value in comparison with blood chemical methods. Mosenthal and Lewis compare this method and the renal test meal with the Geraghty and Rowntree test and with the blood chemical methods and assign a rather high place to it, in indicated conditions. Nevertheless, it must be admitted that while there seems to be something advantageous in this estimation of the ratio between the amount of urea in the blood and the amount of rate of urea excretion in the urine, the conclusions of Addis and Watanabe must not be forgotten, namely that the rate of urea excretion in man varies under physiologic conditions in a manner that canot be explained by the concentration of urea in the blood and urine. At the same time, when considering the use of Ambard's co-efficient, which is normally placed at a point between 0.06 and 0.08, it must be remembered that in formulating this co-efficient, Ambard used the old method of urea determination, which in our hands has shown a percentage of error as much as 50 per cent., using the so-called Doremus ureameter. The accuracy of this figure by Ambard is thus seriously questioned by competent workers. McLean and Selling have, however, worked out another co-efficient, using the methods of urea nitrogen estimation of Marshall, the present accepted test. According to their figures which are based upon the most exact methods of urea determination, the co-efficient should be placed at 0.08 using the Ambard scale and 100, using the McLean scale. An index of 100 is therefore the normal for McLean's co-efficient and 0.08, using the Ambard scale.

So far as the renal test meal advocated by Mosenthal and Lewis, our experience has been too limited to comment upon it. It certainly deserves a place in the list of methods of deficient function, however. Its use will naturally be limited to hospital service. We will now present before this body as tersely as possible some views on the comparative value of the tests of blood already mentioned. Something might be said as to the method of procuring the blood for these analyses. Inasmuch as most of the data already published has been based upon the taking of the sample before eating breakfast, we have adhered to that rule and recommended it. The blood is taken from one of the readily accessible veins on the forearm at the bend of the elbow in much the same manner that we obtain blood for the Wassermann, *i. e.*, place a tourniquet on the upper arm, have the patient take a tight grip, cleanse the skin with iodin and alcohol, plunge a sterile needle point into the exposed and distended vein and permit the blood to flow into a bottle previously prepared with twenty drops of potassium oxalate (dried). Remove needle and close puncture point, and rapidly shake the bottle for five minutes to complete defibrination. The estimation of blood sugar and creatinine must be carried out at once by following the methods of Benedict and Lewis, Folin and Denis, *i. e.*, precipitation of the protein with picric acid. Once this is done, the remainder of the examination may be completed later. The urea is estimated by the Marshall method, the uric acid by Folin method, using in all cases preferably the Hellige colorimeter. The Duboscq may also be used, although the quantity of standard solutions necessary with this instrument under the present stringency of pure chemicals makes this colorimeter an expensive one for large series of tests. The other colorimeters which are advocated have not come up to our expectations so far as accuracy is concerned, particularly is this true with respect to uric acid determination where turbidity occurs very rapidly and makes estimations with the diluting tubes of some of the simpler colorimeters extremely difficult or impossible. Besides, the mineral colors used in the standard tubes do not measure up in accuracy to the standard solutions made up at the same time and in the same way as the unknowns. The value of the methods can possibly best be seen in a consideration of certain types of renal disease, in diabetes mellitus and in gout. Certain facts pertaining to nitrogenous metabolism in health ought first to be mentioned. We know that urea is partly endogenous in origin in the body, partly exogenous. Uric acid is about half and half. Creatinine is practically entirely endogenous. Uric acid is the most difficult of all three for the kidneys to get rid of; urea occupies an intermediary position and creatinine is the easiest eliminated. Therefore, in the presence of a deficiency in kidney function of a progressive nature, uric acid would be first retained, next urea nitrogen and finally creatinine. This has been strikingly shown in the well known tabulated figures of Myers and Chase called their "staircase" effect; namely; first uric acid is retained in early chronic nephritis, next as the case advances, urea nitrogen is stored up, and finally creatinine is retained with the other two mentioned. The retention of uric acid occurs therefore in early chronic interstitial nephritis. Retention of uric acid occurs also in gout. There is no distinction between the blood chemical picture of gout and that of early chronic interstitial

nephritis. For the reason that there is such a striking similarity in these two pictures, Fine has suggested the possibility of the relationship between gout and early chronic interstitial nephritis. It must also be borne in mind that the high uric acid figure in the blood of gouty subjects is rather constant and not readily and quickly influenced by treatment. Pratt has very properly called attention to the fact that the finding of a high uric acid concentration in blood on but one occasion should not in itself be taken as an indication of gout; we may get an occasional transitory finding of uric acid in a joint condition not at all gouty; the distinction, however, lies in the early subsidence of the uric acid concentration in the non-gouty joint trouble and its continuance in the true gout condition. Frequent chemical blood tests will prove this point. Our experience has several times coincided with Pratt's contention.

Chronic kidney degeneration is accompanied by the accumulation of all three constituents; uric acid, urea nitrogen and creatinine. The normal finding in respect to uric acid is 1 to 2.5 mgms. per 100 cc. of blood, of urea nitrogen, from 12 to 15 mgms., and of creatinine of from 1 to 2.5 mgms. An undue accumulation of all three constituents is a remarkably valuable method of estimation of true kidney function. Values for urea nitrogen in conditions of uremic nephritis have been known to reach as high as 300 mgms. per 100 cc. of blood, of uric acid to go as high as 15 mgms, and of creatinine as much as 30 mgms. These high values of course indicate grave uremia. Our experiences have shown the tremendous accumulation of these constituents in bad cases of nephritis even where urinary findings were scant so far as albumin and casts were concerned.

We have been able in all our work to confirm the contention of Myers and Lough that the presence of over 5 mgms. of creatinine in 100 cc. of blood indicates an absolutely fatal prognosis. Outside of the interest that this finding has caused us in estimation of the duration of life in nephritis, we have been lately able to add another condition where its presence in undue amount indicated a fatal outcome. We refer to a study of thermic fever which the writer made in conjunction with Dr. E. Schisler in the St. Louis City Hospital. In this group, full report of which will shortly be published, we noted the presence of the figure of 5 mgms. or over in three cases, all of which succumbed. We noted too the fact that in two cases, one of which presented the clinical picture of possible fatal thermic fever, the other presenting clinically the picture of a possible favorable outcome from this disease, the blood pictures showed the very reverse; one with favorable symptoms had over 5 mgms. of creatinine and died; the other with a very grave set of symptoms, had only slight increase in creatinine and recovered.

In another group of cases in which we have been much interested, we have shown that blood chemical tests will help in differentiating so-called cardio-vascular disease from cases of primary renal disease with secondary cardiac disturbance and lack of compensation. Our blood figures in a large group of cardio-vascular disease showed practically no retention of these constituents, whereas a few nephritics with failing hearts placed in the series as control showed extreme retention. This fact seems to us of sufficient importance from a diagnostic and therapeutic standpoint to bear mention.

The combination of nephritis with diabetes mellitus has possibly long been recognized but too often is disregarded. The estimation of blood sugar in diabetes should be accompanied by an estimation of the other non-protein nitrogenous blood constituents to determine the condition of the kidneys. If blood chemical analyses were made more often in grave diabetic states, it would be shown that some of the so-called cases of diabetic coma are really in a state of extreme uremia due to this complicating nephritis. Many cases of diabetes mellitus have died of uremia and were called diabetic coma and treated as such. We know of a recent experience where the very reverse occurred: a child was found in a state of coma, with but scant tangible history and was hurried to the hospital. There a diagnosis of uremia was ventured, together with some consideration of the existence of a dilatation of the right heart. Blood chemical analysis showed as follows: Urea nitrogen 15 mgms., uric acid 4.2, creatinine 3.49, *sugar 0.30* per cent. The urine analysis showed a minute trace of sugar with Benedict's test, large amount of albumin and finely granular casts. Here the blood picture was severe hyperglycemia and not severe uremic nephritis. This case was unquestionably one of diabetic coma, although it was clinically classified as one of uremic nephritis.

The estimation of hyperglycemia is interesting and important in connection with our studies of diabetes mellitus, from a diagnostic, prognostic and therapeutic point of view. We know that the normal percentage of sugar in blood varies between 0.10 and 0.12 per cent. Any figure above this may be regarded as hyperglycemia. The threshhold point of when sugar appears in the urine, or as it may otherwise be expressed,

the permeability of the kidneys for sugar, is not definitely fixed. Hammann and Hirschman reported from a study of fifty cases at the meeting of the American Society for the Advancement of Clinical Investigation, that if the blood sugar was not above 0.17 per cent., sugar did not appear in the urine, but any figure above this was followed by glycosuria. Foster at the same meeting, found the renal threshhold of permeability for sugar to lie between 0.148 and 0.164 per cent., basing his figures upon studies made on patients after undergoing ether narcosis. Our studies on diabetics under starvation show that sugar may be found in the blood in even higher concentrations than 0.18 per cent., without an accompanying glycosuria. The examination of the urine is not always a satisfactory method of estimating the exact status of carbohydrate metabolism in the diabetic subject. We know that glycosuria may exist with but little hyperglycemia. We also know that hyperglycemia may occur with but little or no glycosuria. The true criterion of the condition is to be found only by an examination of both blood and urine. The study of diabetics under Allen starvation treatment has given us some very interesting figures. These figures show a uniform lowering of the blood sugar with the lowering of the urine sugar, but not always in the same ratio. The true balance of carbohydrate metabolism can best be established by a study of both blood and urine.

Again, the purpose of a blood chemical search for sugar will serve to clear up the much disputed question as to whether or not the term "renal diabetes" is a misnomer or whether it really represents a disease entity. According to our impression, after a very thorough search of the literature, there are possibly but five to seven cases of renal diabetes on record where a study of both blood and urine has been carried out. Renal diabetes is supposed to mean a state of kidney leakage characterized by glycosuria, but without hyperglycemia. Allen admits two cases as absolute examples of this condition; namely, a case of glycosuria, with no hyperglycemia, with no symptoms of diabetes mellitus. Mosenthal and Lewis describe a case which properly falls within this classification; yet two such eminent authorities on this subject as Joslin and Foster, incline to the belief that renal diabetes is an incipient form of diabetes mellitus. Whether it is or is not, has not yet been proven, but certainly it cannot be proven without blood chemical investigations.

Another method of blood chemistry that promises much helpfulness in diagnosis and treatment is the so-called estimation of the combining power of the blood plasma for carbon dioxid as originated by Van Slyke. By this very ingenious apparatus we may estimate exactly how much carbon dioxid an individual's blood plasma may take up and in that way determine the onset of acidosis. Normally, in the state of relative alkalinity of blood plasma, about 65 per cent. of the carbon dioxid which is blown into it will be taken up. As the acid bodies form which are part of the chemical changes seen in the blood acidosis, the blood loses this power to combine with carbon dioxid so that when the figure of fifty or thereabouts is reached, we may conclude that the individual is in a state of acidosis. This constitutes an admirable method of investigation and one that is by far of more importance than is the finding of acetone and diacetic acid in the blood. While there is another method, namely, the estimation of the carbon dioxid tension of alveolar air, preferably by the method described by Marriott, the Van Slyke method appears to us to give as much information as does the Marriott or the Plesch Friedericia method, and does not require co-operation of the patient. The co-operation of the patient is manifestly difficult to obtain in cases of comatose or semi-comatose states.

We thus are able by personal experiences to confirm the data already obtained on the undue accumulation of these non-protein nitrogenous

The Characteristic Blood Pictures in Gout, Diabetes and Nephritis.

DISEASE	Total Solids	Total Nitrogen	Non-Protein Nitrogen	Urea Nitrogen	Uric Acid	Creatinine	Creatine	Sugar	Chlorides as Sodium Chloride	Cholesterol
	PER CENT		MGMS. PER 100cc. BLOOD					PER CENT		
Normal	20.0	3.00	25-30	12-15	1-3	1-2.5	5-10	0.08-012	0.65	0.15
Gout					3.5-6					
Mild Diabetes								0.15-0.30		
Severe Diabetes	17-20	1.8-29						0.30-1.10	0.57-0.61	0.15-0.30
Chronic Nephritis	13-19		30-80	15-50	1-4	1-3			0.54-075	0.17-0.35
Uremic Nephritis	12-18	1.7-27	120-350	80-300	4-15	4-34	5-31	0.10-020	0.48-0.64	0.17-035

constituents of blood in gout, the nephritides and deranged renal conditions. We have used the blood sugar methods of Benedict and Lewis and can vouch for their inestimable benefits in the diagnosis and treatment of diabetes mellitus. We can also recommend the Van Slyke method of estimation of the combining power of blood plasma. Another field of usefulness of these tests which is now opening up, is the pre-operative survey of surgical cases, the estimation of operative risk and the manner in which kidneys are functionating after operative interference. This should prove of great help to the operating surgeon. In the field of surgery known as urology, blood chemistry must certainly be utilized. The methods of today, by which only urea quantities, phenolphthalein tests, are performed, are inadequate and manifestly cannot give the surgeon the true picture of his patient's kidney function. As more experiences are obtained, as more data are procured and their interpretation carefully carried out, we shall possibly be able to give to the Folin methods a more definite place among our diagnostic instruments and our therapeutic aids than they have hitherto occupied.

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VASO MOTOR EPILEPSY OR VASO CONSTRICTOR ANAPHALAXIS*

J. J. ROWAN, JR., M.D., Dubuque

Blood-pressure and the heart are so closely corelated, that it is impossible to disassociate the one from the other. There can be no pressure without the living heart, and conversely, there can be no living functionating heart without the production of pressure in some degree at least. The power of the contracting cardiac muscle, the resistance of the stream of blood in its journey through the arterial tree, the viscosity of the circulating medium itself, all combine to produce the force we term blood-pressure, and this force, at least locally, is a measurable quantity. While a measurable quantity, it is also a variable quantity, and no hard and fast rules have or can be formulated, as to what is normal and what is not. However, we can prognosticate pressure values rather accurately, keeping in mind the very evident fact that the pressure of either radial is not necessarily that existing in the middle meningeal. This much we know, that a certain pressure, within specified limits, is normal or the reverse for certain ages, environments, and conditions of health, and that they are rather constant. This being true of the healthy organism, it is also true of organic and functional states presenting well defined lesions, or none at all. The important pressure values in any line of clinical observation, are the diastolic and the pressure pulse. The systolic pressure being solely the result of the two important pressures, it has, from a diagnostic point of view, absolutely no value. Blood-pressure when studied in connection with heart abnormalities, whether they be organic or functional, presents, within certain limits, certain characteristics, strikingly constant. Every deviation from the normal in the heart presents a different problem or load for the muscle to solve or overcome, and each condition alters the pressure sufficiently, to be more or less characteristic of that particular heart condition, so characteristic in fact, that in, for example, dilation following organic defects, after the first shock to the sympathetic nervous system, due to alterations in the blood of its carbon-dioxide content, the diastolic pressure is almost invariably high; quite the reverse of the generally accepted opinion that in cardiac dilitation, the blood-

*Read before the Dubuque County Medical Society.

pressure, due to decreased muscular efficiency, must be decreased in proportion to the degree of muscular insufficiency. The pressure pulse is low, and in direct ratio to the degree of dilitation, as a result of which, the systolic pressure is markedly affected, demonstrating very effectually, how valueless a systolic reading, alone considered, may be. On the other hand, the diastolic pressure is very constantly, and considerably increased. The degree of increase is variable, and this variability is of great significance. Nature is frugal if anything, and utilizes the waste products, consequential upon a defective circulation, for the relief of the condition itself. The waste products of combustion, principally in the form of carbon-dioxide, and up to a certain percentage of concentration, are normal to the body, and are easily taken care of; but over and above this point, they become dangerous, in that they exercise poisonous proclivities, especially in the presence of defective eliminating organs. The tissue which is probably the most sensitive to carbon-dioxide, is nervous tissue, and the cells composing the vaso motor constrictor center, show especial predilection for it. The action of the carbon dioxid blood content is one of stimulation, and results in very immediate blood-vessel contraction, which in turn diminishes very materially, the amount of free space to be filled by the circulating fluid. With a dimunition of space, there is less effort demanded of an incapable heart, and by lightening the load, there are greater prospects of ultimate compensation. This overstimulation continues as long as the carbon-dioxide hæmoglobin concentration remains over and above the normal, which is usually for a considerable period of time. The state of arterial contraction is never entirely relieved or returns to its former degree of elasticity for the cardiac organ, regardless of the degree of repair which has taken place, is never again, quite the organ it previously was. The constrictor center, as a result of the more or less continual stimulation, becomes sensitized in much the same manner as certain body tissues do in the phenomena of anaphylaxis. The center becomes the victim of habit, and reacts or explodes in much the same manner as the centers composing the motor areas, in and around the fissure of Roland, to stimuli to which it was previously immune. The usual stimuli are supplied by intestinal autotoxemias. In this respect, it shows a considerable resemblance to epilepsy of the motor areas. The etiological factors lie in any condition producing the necessary disturbances in the digestive tract.

The following abnormalities of the digestive tract, have all been observed in cases which have come under my care; chronic constipation, intestinal indigestion, old adhesions causing more or less constriction of the intestines, ptosis of the stomach or intestines or both, chronic constipation, and in fact, any condition favoring the development of an auto-intoxication. With the presence of these conditions operating as first causes, there results, on the occasion of any excitement, nervous strain, overwork or mental irritation, a state of high diastolic pressure, accompanied by well defined symptoms, to which I have given the name, "Vaso Motor Epilepsy."

Vaso constrictor anaphylaxis would also appear to describe the condition fairly well, for it is a sensitization of the vaso constrictor center, resulting in a state of functional arterial contraction, the opposite of what it should be.

Characteristics:

Its chief characteristics, is its sudden onset! and just as rapid decline, in a few moments, the diastolic pressure may increase to 120 mn. of hg., or even more, and in an hour, have declined to a normal level for the age and conditions present, with complete subsidence of all unpleasant subjective symptoms. Clifford Allbutt, the Englishman, has described a condition, somewhat similar, to which he has given the name, "Hyperpiesia," but which is materially different in many important respects. A nephritis may co-exist, but vaso constrictor epilepsy occurs entirely independent of any kidney involvement.

It occurs in the presence of a long continued intestinal autotoxemia. The first symptom noticed by the patient, is a nervousness, growing progressively more severe, and a sensation, described as a feeling of extreme bodily tension, so severe that something is going to snap, or that the body will break open. This symptom of body tension is very characteristic, in that it is among the first things noticed by the patient, and is recognized as a forerunner of an impending attack. The extreme nervousness, impels the patient to keep continually in motion, and an emotional state of mind gradually develops tending to much weeping. If the attack is severe enough, there suddenly occurs, without warning, what is described as an excruciatingly boring pain, in the neck, at the junction of the skull and cervical vertebræ.

If the pressure be taken at this stage, it will be found to be anything from 115 mn. to 130 mn. of mercury, diastolic. The symptoms are usually so severe, that immediate resort must be made to at least a quarter of a grain, and frequently a half grain of morphin, given hypodermically. In the milder attacks, the bromides, as in epilepsy of the motor areas, appear to have some effect,

but the nitrites, contrary to what one would expect, are entirely ineffective, both on the symptoms and the pressures.

Cardiac distress is very likely to be an early and prominent symptom complained of by the patient as a result of the intense arterial contraction. In the earliest stages of the disease, it is likely to assume all the characteristics of a failing organ, with a declining pressure pulse, but later on, and after compensation is well established the pressure pulse is increased in proportion to the diastolic increase with a correspondingly high systolic pressure. The cardiac symptoms are then those of excessive cardiac action, rather than those of cardiac failure.

Præcordial pain with a sensation of fatigue beneath the sternum is most usually complained of. Constipation is habitual, and large accumulations of gas in the intestines, and the belching of gas from the stomach have all been prominent symptoms in vaso motor epilepsy.

Recapitulation:

Vaso motor epilepsy appears to be confined almost solely to the middle years of life, and is very much more frequent in the female than in the male. It may occur without the existence of any previous organic disease, but is most usually observed as a sequence to organic heart disease. A necessary feature in its production, is a chronic intestinal auto-toxemia, usually the result of a chronic constipation, ptosis of the stomach or abdominal organs, old adhesions or constrictions, a chronic appendicitis, or in fact, any disturbance of the digestive tract, resulting in a chronic auto-intoxication.

As a result of cardiac dilitation, and as a consequence of the excessive carbon dioxide blood content, the vaso motor constrictor center is stimulated to great activity, and a compensatory arterial contraction takes place, which results in lessening vascular space, thereby relieving the heart of much work to be done, and creating conditions as favorable as possible for the rejuvenation of the collapsing cardiac muscle. This constrictor center stimulation, continuing for a considerable period of time, results in its sensitization, which renders it amenable to stimuli to which it was previously immune. The presence of an auto-toxemia causes the center to react in much the same manner as do the centers in the motor tract in the production of an epileptic seizure; namely, without control as regards time or extent, hence the name, vaso motor epilepsy, or vaso constrictor anaphylaxis.

The vaso constriction, together with its resultant high diastolic pressure is characterized mainly by the rapidity of its occurrence and the suddenness of its decline. The patient, while feeling well and comfortable, suddenly is aware of a commencing nervousness, becoming more and more intense, accompanied by a sensation of bodily tension, described as a feeling as though something was going to snap, and, if the diastolic pressure is of sufficient degree, usually 115 mn. of hg. and up, an extremely severe, boring pain, said to be at the junction of the skull and cervical ventebræ. If the case is of recent origin, the pressure pulse and the systolic pressure will usually be found to be low, but if cardiac compensation has taken place, the pressure pulse will be abnormally high, as a result of the extra work required of the heart in pumping the blood through a system of rigid vessels, and as a consequence, the systolic pressure will be found to have very materially increased. It is very apparent at this stage of the disease, that the patient is suffering most acutely and that she is experiencing most intense misery. In anywhere from one-half to an hour or two, the patient will be found to be resting easily, with complete subsidence of all symptoms, and a blood-pressure entirely normal under the conditions.

As a typical example of the vaso motor epilepsy, I submit the following case.

The patient is a woman, in the neighborhood of sixty years of age. Previous to two years ago, she was thought to be in fairly good health, aside from various nervous disorders, which were of a minor nature, and functional in character. About the month of August, 1914, she experienced what was supposed to be a mild attack of influenza. It was followed by an acute attack of endocarditis, and as a result of certain physical efforts she was compelled to make, a dilitation occurred, of extreme degree, and through which, she nearly lost her life. I saw her two months later, at which time, compensation had been fairly well established. At this time she was having periodic attacks of something which certainly had no reference to the heart condition. Interspersed among them were attacks of pure cardiac origin, namely, heart block. The heart block occurred only at rare intervals, and was entirely unassociated with the previously mentioned condition. Occasionally there were present evidences of excessive ventricular action, which is demonstrated very beautifully in the records.

In order to show the very great value, in fact the indispensability of the pressure records, in the diagnosis of this and other vascular states of health, I will give the daily record and nurses' report at various times during a year. It would not be possible in so short a paper, nor is it necessary, in order to make the condition clear, to do more than select the records of the attacks which were the most severe and the most typical.

March 20, 1916. Nurse's report:

The patient spent a sleepless night. Does not know why. This morning she is restless and extremely nervous. Patient says she has that peculiar feeling as though something were going to break. At 7:20 A. M. patient suddenly becomes very tired and complained of an aching in the back of the neck; not so severe as usual however. Pulse was 120. At this time I arrived and the sphygmomanometer registers the following:

Systolic .....186 mn.
Diastolic .....108 mn.
Pressure Pulse ..... 78 mn.
Mean .....147 mn.

It is very evident from the readings, that if the symptoms are not the result of the diastolic pressure, that pressure has been the one most immediately affected. A pressure of 108 mn., with the other pressures approximately normal for the age and conditions, could not but cause very unpleasant sensations. At 8:10 A. M. the record is as follows:

Pulse 90. Patient very comfortable and entirely free of pain, nervousness, or that feeling of tension. At this time the pressure records are as follows:

Systolic .....178 mn.
Diastolic ..... 98 mn.
Pressure Pulse ..... 80 mn.
Mean .....138 mn.

At 9:00 P. M. the nurse reports as follows:

Patient has had a very comfortable day and feels as though she was going to have a good night's rest. This was a typical attack of arterial spasm of a mild grade, and lasted all told, that is the actual attack lasted just fifty-five minutes. The restless night was premonitory and assumed the characteristics of an aura. As an example of the valuelessness of the systolic pressure, the record of the following day is given as a comparison.

Systolic .....200 mn.
Diastolic ..... 98 mn.
Pressure Pulse .....102 mn.
Mean .....149 mn.

Nurse's report:

Patient rested well last night. Was awake a few times but was not nervous or restless. This morning, the patient feels as well as she ever has. This report, in spite of the fact that systolic pressure was 14 mn. higher than on the previous day, is very significant. The diastolic pressure of 98 mn. allowed her to be comfortable, even though the pressure pulse was sufficiently elevated to produce a systolic pressure of 200 mn. The ventricular contractions were a little more energetic than usual. For the next three days the patient was comfortable and the pressures were all within reasonable limits. On the morning of the 24th of March, I was called to see the patient at 2:30 A. M. She retired at 9 o'clock the previous evening feeling well and comfortable in every respect. She slept soundly until 2 o'clock, when she awoke with a feeling of such extreme bodily tension, that she cried out to the nurse that she was going to snap open; in the meantime, weeping copiously. Ten minutes later she was moaning with an excruciatingly boring pain in the back of the neck at the junction of the skull and cervical vertebræ. Her head and neck were rigid, and her color was that of extreme pallor. I was immediately summoned and administered a half grain of morphin hypodermically. The sphygmomanometer registered the following:

Systolic .....247 mn.
Diastolic .....130 mn.
Pressure Pulse .....117 mn.
Mean .....188.5 mn.

A hypodermic injection of one-hundredth of a grain of nitroglycerine had no effect on the pressures, but an hour later, following the full effects of the morphin and a high colonic flushing with a gallon of normal salt solution, as hot as she could bear it, the pressures were as follows:

Systolic .....200 mn.
Diastolic .....100 mn.
Pressure Pulse .....100 mn.
Mean .....150 mn.

The pain in the back of the neck was gone as was the feeling of tension, but she complained of a dull aching pain beneath the stemun, and a sensation of great muscular fatigue in the region of the heart. An ice-bag was placed on the precordium, and a half hour later, she was sleeping quietly. Her pulse which was slow and soft, did not exceed 120 beats per minute at any stage of the attack.

This particular attack, which was one of the most severe she has experienced, followed a period of obstinate constipation, and stomach and abdominal distress, covering the three previous days. From the 24th of March to the 8th day of May she had attacks of varying degree of intensity, every third or fourth day. On this day, the record is of value chiefly in demonstrating the value of the pressure records.

Nurse's report:

Patient slept well until 2:20 A. M. when she awoke, drenched in perspiration. Complains of feeling weak and short of breath. Pulse soft and hard to feel. No cyanosis. Administered two drams of the aromatic spirits of ammonia. Three A. M. Feels better. Does not wish to disturb the doctor. Gave an alcohol rub. Three-thirty A. M. asleep; slept soundly until 7:30 A. M. when she awoke feeling quite cheerful.

At nine-thirty o'clock the apparatus registered the following pressures:

Systolic .....150 mn.
Diastolic .....100 mn.
Pressure Pulse ..... 58 mn.
Mean .....129 mn.

This pressure record tells the story plainly enough, and demonstrates very forcibly, the absolute necessity of the routine use of the blood-pressure instrument. At 9:30 o'clock, when she was feeling very much better than in the early morning hours, the pressure pulse was still only 58 mn. of mercury, probably considerably more than it was at 2:30 A. M. when she awoke feeling badly. The heart muscle power was at fault this time, and not the vaso-constrictor center in the brain.

From the 8th of May until the 31st of the month, the patient gradually improved in health. The diastolic pressure at no time registering more than 98 mn. of mercury. As a result of the elastic vessels, the heart gradually became much better and she was very comfortable. During this time the bowels were kept constantly evacuated by means of a saline purge alternating each third day with cascara, and every seventh day with calomel. She was given a daily high colonic flushing with normal salt solution.

May 31, 1916. Nurse's report:

Visited family lot in cemetery yesterday evening. Returned home exceedingly nervous. Retired at 9:00 P. M. and slept until 12:15 A. M. when she awoke and remained awake, despite a quarter grain of morphin, for the rest of the night. Is very nervous this morning, keeping continually in motion. Has a headache but pain is not in the back of the neck, nor has it the usual boring quality. There is no feeling of tension.

At 9:00 o'clock in the morning I called, and remained for one hour with the patient. For the sake of comparison, I shall place the records taken at9:00 o'clock and 10:00 o'clock, parallel to each other, in order that it may be seen graphically, at a glance.

	9:00 A. M.	10:00 A. M.	Difference
Systolic	206 mn.	168 mn.	38 mn.
Diastolic	99 mn.	78 mn.	21 mn.
P. Pulse	107 mn.	90 mn.	17 mn.
Mean P	152.5 mn.	123 mn.	29.5 mn.

With the exception of the inconveniences attendant upon the administration of a mercurial purge, the patient passed a very good day, and at 9:00 o'clock in the evening the pressures were as follows:

Systolic	160 mn.
Diastolic	70 mn.
Pressure Pulse	90 mn.
Mean	115 mn.

A difference in the mean pressure, between 9 o'clock in the morning and 9 o'clock in the evening of 37.5 mn.; a difference which speaks for itself. This attack was due to heart hyper-sufficiency. It had no connection with her vaso motor epilepsy, and required an entirely different plan of treatment. I have presented it as another example of the characteristic pressures to be found in the various vascular conditions, and to demonstrate in a forcible manner, just how impossible it is to form any correct idea of existing vascular conditions, without the systematic use of the sphygmomanometer. Attacks of vaso motor epilepsy have occurred at frequent intervals up to the present time, but with a gradual decreasing degree of severity. Until the characteristic pressure changes had been repeatedly demonstrated, the patient had been pronounced a hysteric. Unjustly so, for there is sufficient cause for her symptoms, in the sudden, violent changes in the diastolic pressure.

From my experience in blood pressure work, I suspect, that in a majority of instances of so-called hysteria, the study of the pressure will reveal, at least a physiological reason for the symptoms, of the nature I have referred to, and that no case can justly be assumed to be one of mental instability, *per se*, until, by a complete study the diastolic pressures, the effects of a spasmotic vaso motor spasm can be eliminated. In fact, I believe it is extremely doubtful if hysterical attacks, without vascular spasm exists, and that the symptoms complex, which we call hysteria, are the result of sudden, violent and spasmotic vessel contraction, to which I have given the name, vaso motor epilepsy or vaso constrictor anaphylaxis.

During the passed summer months, the patient went east, and came under the care of Dr. J. S. Young, of Rahway, New Jersey, while there. Dr. Young had a series of rœntgenograms of the patient's digestive tract, made by Dr. Charles F. Baker, of Newark, New Jersey. They are interesting, in that they illustrate the conditions existing in this particular patient's digestive tract, which resulted in the sensitization of her vaso constrictor center.

The rœntgenologist's report is appended:

The stomach is of very large size, the greater curvature extending into the true pelvis. The outline of the body of the organ is even and regular. The cap, or first portion of the duodenum, is of very large size and instead of being mushroom shape does not conform to that description in any respect. It is irregular in outline and impresses me as being dammed up or obstructed just beyond in the second portion of the duodenum. The pyloric orifice is toward the left instead of being centrally under the cap. It (the cap) always contains an unusually large amount of bismuth, which I think may be due to adhesions affecting the second portion of the duodenum.

At four hours after the meal there is a marked retention in stomach and cap. This is normal for stomach but is seldom seen in the cap. The latter still maintains its dilated character.

At six hours there is also a residue in both stomach and cap. This residue is not due to obstruction

but in part due to the shape, size and atonicity of the stomach.

At ten hours the terminal shows a hazy residue very small in amount. The caecum at this time is in

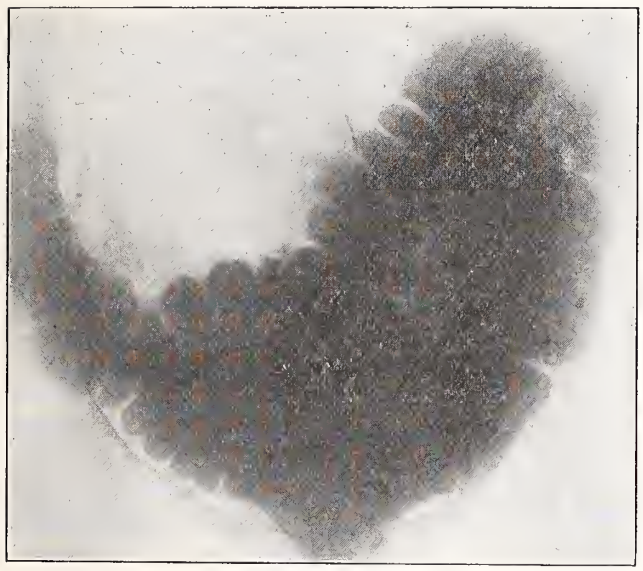


Figure 1—Enema.

the pelvis and shows a very decided band constricting it just above the ileo caecal valve. The hepatic flexure is at a very low level, viz: in the iliac fossa; and the transverse colon descends into the true pelvis where it remained throughout the examination.

At thirty hours there is a marked residue in the entire colon. There was no evacuation in the interim.

After the bismuth enema the entire colon is well filled but the transverse colon is still in the pelvis.

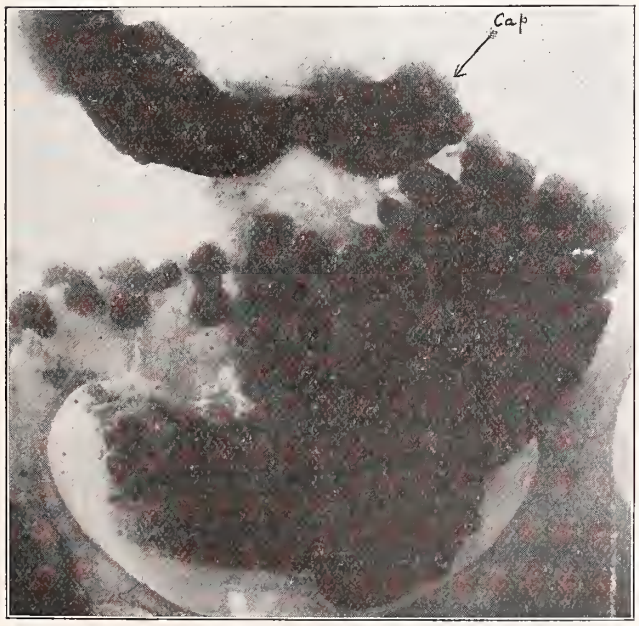


Figure II—Four hours.

The band about the caecum is well marked but aside from the ptosis the colon is otherwise negative.

Further corroboration of the presence of the band above mentioned is given in some of the small pic-

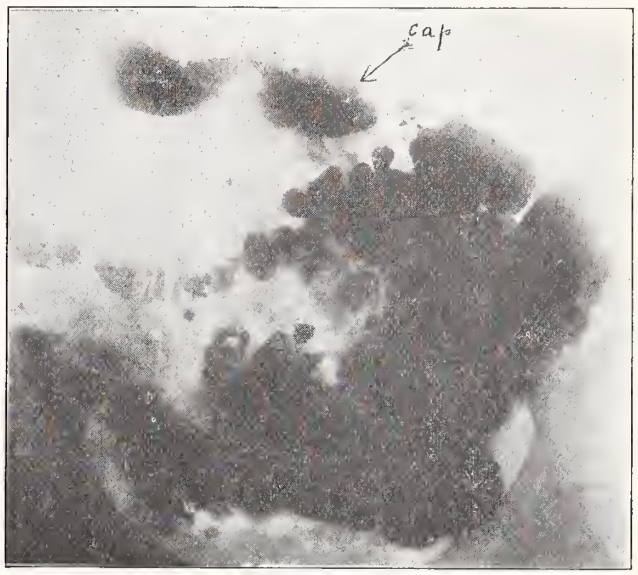


Figure III—Six hours.

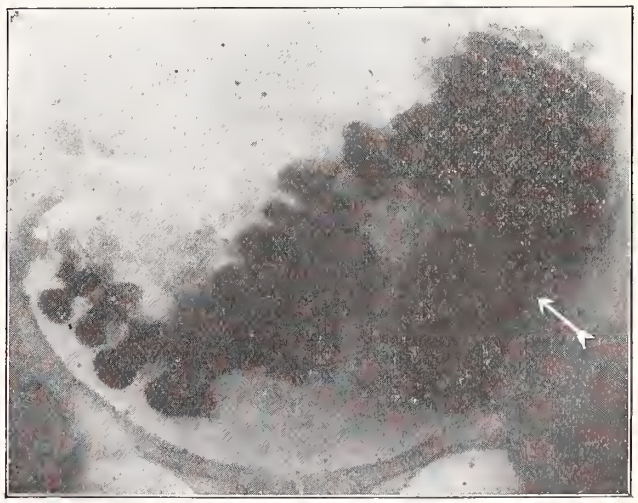


Figure IV—Ten hours.



Figure V—Thirty hours.

tures of the stomach where it can be noted at the edges of the plates.

Summary and Diagnosis—There is a marked ptosis of stomach and colon with atonicity. The



stomach is large and dilated, which may be due in part to the presence of adhesions at the beginning of the second portion of the duodenum. There is marked stasis throughout the large intestine with



low position of same and the presence of undoubted adhesions or band at the junction of caecum and ascending colon.

Respectfully submitted,

C. F. BAKER.

THE DUTY OF THE MEDICAL MAN IN THE PRESENT CRISIS

JOSEPH COLT BLOODGOOD, M.D., Baltimore, Md.

(An address before the American Medical Editor's Association, Tuesday evening June 5, 1917, Hotel McAlpin)

The evening papers report 10,000,000 will register, "President Serenely Confident of the Outcome; No Class Exemptions Contemplated by the Government." Would that this could be said of the medical profession who as yet do not realize the military situation comes first.

Dana said in the definition of news, that if a dog bit a man, that was not news, but if a man bit a dog that was news and he wanted it for exclusive publication.

If the entire medical profession under the age of fifty-five should volunteer at once for the Officers Medical Reserve Corps and give the Government or a committee of their colleagues an opportunity to make a selective draft, *this would be news.*

At the present time the number of doctors in the Medical Reserve Corps is so much less than the immediate requirements that it is impossible for the surgeon general's office or any of the working committees to make a selective draft. The demand will soon be 10,000 and at the present time there is not more than 4,000 available.

The medical man under fifty-five years of age who does not volunteer his services to the Government not only fails to perform his patriotic duty to his country and to his profession but also does an injustice to his colleagues who have volunteered their services.

Not until the officers in the Medical Reserve Corps is far greater than the demand will it be possible for the surgeon general's office to make a fair selection according to age, experience, and specialty.

Therefore the first duty of a medical man in this crisis is to volunteer his services at once and without any reservation.

Who should decide whether your services are most needed at home or with the army—the individual, the Government or a special committee of your colleagues?

Up to the present time it has been left to the individual with result that we are unprepared in the Medical Reserve Corps as well as in the corps of the Army and Navy. Not only is the number insufficient but many of the most important members of the medical profession have not as yet volunteered their services. This is especially true of the most recently trained younger group, men under thirty-five with hospital experience.

These are the men most needed to accompany the troops.

Volunteers for base hospitals have come in sufficient numbers at the present time more than is needed, but volunteers to go with the troops are conspicuous by their absence in large numbers.

Even before the navy and army were enlarged their medical corps were short from two to five hundred men. Now that these regular branches have been greatly enlarged the deficiency in the medical corps have doubled and will soon treble.

It is my opinion that any young physician with one year's hospital experience should not be prevented from entering the medical corps of the army and navy if he desires to volunteer for this immediate and life service. In spite of this a number of medical schools and civic hospitals are holding these men to their contracts. It is quite true that the needs of medical schools and civic hospitals must be carefully guarded, but it is my opinion that it should be from the Medical Reserve Corps and not from the regular medical corps of the army and navy.

When you volunteer, clearly give a description of what you are fitted to do and not make requests of what you want to do.

Every state and many cities have their special committees on preparedness whose duty it is to take care of volunteers for the Officers' Medical Reserve Corps. Consult these committees first and do not overburden the surgeon general's office with correspondence or personal visits.

These committees are properly organized to make the physical examination, collect from you all your credentials, give you all the information, and pass judgment. If you object to the decision of this committee you have the right of appeal to the surgeon general of the army or navy.

Medical men under thirty with one year hospital experience who desire a medical life career in the army or navy or public health service should apply at once to the surgeon general of the corps they decide to enter. There is a tremendous demand for men of this kind at once and you are therefore doing a patriotic duty in addition to selecting an honorable career filled with opportunities which should satisfy the most ambitious graduate in medicine.

The duties of a medical man in this crisis, therefore, is to volunteer at once, get your credentials properly before the Committee on Preparedness, see that it is given in detail what your financial sacrifice will be and have it thoroughly recorded whether you are actually needed in your civic duties. For example, a surgeon to a great industry. Give in the greatest detail what your training has been.

Get others to volunteer and so increase the number to a point that selective draft will be possible.

The examination of recruits for the new army is the first and perhaps one of the most important functions of a military medical officer. The majority of men in civic practice object to this duty because, I believe, they do not understand its importance.

If we have a sufficient number of physicians in the Medical Reserve Corps this examination of recruits can be performed with dispatch and accuracy and with the protection both of the Government and of the individual. An insufficient number of medical men will make this impossible.

When the troops are assembled in mobilization camps it requires a large number of trained physicians to protect them from diseases.

Should epidemics of infectious diseases break out in these camps because of an insufficient number of medical officers it will be the fault of the medical profession throughout the country who have not volunteered and not the medical department of the Government.

Medical science has developed to such an extent that we can protect our men provided the medical department are given the means for this protection.

One of the most important means is sufficient number of doctors.

Remember—any army without ammunition is helpless and so also is an army without a sufficiently large medical corps.

RADIUM THERAPY*

D. Powell Johnson, M.D., Muscatine

Gentlemen:

In the course of barely four years, radium has taken such an important place in medical science that the subject can be scarcely more than hinted at in a brief address.

Radium was discovered in the form of its salts in 1900 by Professor and Madame Curie and isolated in elementary form by Madame Curie and Professor Debierne some years after Professor Curie's decease. It is a metal, a homologue of Barium, bivalent, with the atomic weight of 226. Of its salts, the soluble and deliquescent bromide is usually in use when collection of the gaseous emanation of radium is desired, whereas the sulphate, the most insoluble one known, is commonly selected for open preparations. Owing to the difficulty of handling and

*Read before the Muscatine County Medical Society

transferring the purer salts without loss of the precious substance, the concentrations are usually from about 20 to 60 per cent. Radium is under constant regular atomic decay into elementary substances of less and less atomic weight, ending, as is now believed, in ordinary lead. Its parent is uranium, from which it is constantly being formed, and its half-life is about 1800 years.

This new element has many most fascinating physical, chemical and electrical peculiarities, but for this occasion I feel it best resolutely to confine myself to those which have a medical and surgical significance. Of these, that quality of radium which is paramount, is its radio-activity. This word includes a number of momenta, but especially for us, the power of emitting ray-streams which have a profound effect upon animal tissue.

To these ray-streams is due the main therapeutic value of radium; so, as you will gather, a mite of radium salt within its container somewhat resembles a tiny x-ray tube, but with a relatively far excelling power, and needing no driving apparatus to activate it.

These ray-streams are of three classes, each of radically different properties; they are emitted not all by radium itself, but by radium in conjunction with the simpler atomic degeneration products which accumulate in the individual preparation after this has attained "equilibrium" in the course of a seasoning of five weeks following its construction.

Alpha rays, 90 per cent. of the total output, have, as far as known, only a rubifacient and vesicating action, and constitute the set least used in therapy, being blocked off by thin metallic screens called "filters." Beta rays, 9 per cent., are "soft" to "hard," the latter being usually employed in conjunction with the following. Gamma rays, whose atmospheric penetration may be described as limited only by space itself, although contributing but one per cent. of the total, play the greatest part in our work.

Hard beta and the gamma rays have a peculiar selective action upon morbid and other low grade tissue cells, especially upon the rapidly multiplying embryonal type cells which are a feature of malignant neoplasms, causing rapid necrosis and absorption of these. Again, beta and gamma rays specially attack the intima of small blood-vessels, causing vigorous obstructive endarteritis. Thirdly, these two processes are accompanied by free stimulation of local fibrosis (scar-tissue) which, besides replacing the new growth to considerable extent, also encysts much of the morbid material which has escaped destruction by the rays. Finally, the rays, while in action, powerfully stimulate drainage.

It is evident at once that this series of tissue reactions forms an ideal group for attacking accessible malignant and other rapidly growing neoplasms as well as many other lesions not neoplastic where nevertheless a hyperplasia of tissue elements accompanied by an abnormal increase of the local circulation forms the histological complex; and that the facts of clinical experience correspond with these a priori considerations, is a truth which can be verified for any medical man who presents cases for radium treatment.

Comparison between the action of radium and the x-ray, naturally suggests itself. Briefly put, each has its place. They dove-tail, and are competitive only here and there. Broadly, the x-ray is only a selective agent; for we seldom dare use it in destructive dosage. Radium is both selective and destructive, since under due safeguards, although far more powerful, it can be pushed to extreme dosage with impunity. Mechanically the differences in employment are obvious. The lesions vast in extent often produced by neglected lupus vulgaris and rodent ulcer very naturally fall to the x-ray, for we have no sufficiently large applicators of radium and rarely a sufficient quantity to heal such extensive lesions within a reasonable expenditure of time and expense. On the other hand, radium is frequently applicable with ease when the x-ray would be impossible or ineffective, and in general radium is more manageable, better fitted for precision of dosage, has in instances a far more selective action, and relatively to the area affected, is far more powerful. Nevertheless, in instances, one may heal where the other has failed. Finally, clinical experience is now rapidly establishing the dividing line of indication between these two great therapeutic agents.

Resuming our immediate theme, in epitheliomata of the face where the extent of the sore is not too great, *failure to cure by radium is rare,* and, too, the cure is usually effected by a few comparatively brief treatments. Many dermatological lesions heretofore resistant or obstinate, yield in varying degrees. Among these we may list certain forms of chronic eczema and psoriasis. That primal example of clinical obstinacy, lupus erythematosus, and acne keloid, frequently yield kindly to radium in conjunction with appropriate adjuvant measures. The only cure I have ever witnessed of kraurosis vulvæ except excision, was accomplished with unassisted radium. I have, only recently, caused an adenoma of the breast of hen's egg size, to disappear completely by an aggregate of thirty-six time-hours, or a

little over 2,000 milligram-hours. This tumor was wholly subdermal and moveable. Above all, nævus vasculosus, angiomata, lymphangiomata and malignant or suspicious verrucæ are sensitive and yield. As a means against hemorrhagic uterine conditions, uterine discharges in general and against pruritus anywhere and from any cause, our agent has proven paramount and unrivaled in my experience and observation. In connection with all this, it is to be borne in mind that where cosmetic result is a desideratum, properly conducted radium treatment is especially indicated. In lupus vulgaris et erythematosus and other forms of dermal tuberculosis, the scar from radium rivals that of the Finsen light without the latters enormous expenditure of time and patience.

But, gentlemen, while these and many other ailments might be profitably dwelt upon, I desire especially to call your attention to radium as applied to cancer of the cervix.

In this domain, radium has heretofore usually been employed in frankly inoperable and post-operative recurrence cases, and as an adjunctive proceeding in hysterectomies on prophylactic grounds. In some clinics the "border-line" cases have been in part given to radium. Everywhere the operable case, except vicariously, has been kept for surgery.

The mechanical difficulties in applying radium to neglected nodular growths of this region, especially post-operative, must be obvious to you, as must be also the fact that in such cases the radium specialist has almost invariably to deal with a recuperative—and resistance-weakened cachectic patient groping for the last available hold upon life and comfort.

Nevertheless, the clinical and occasional actual cures which have been compassed by radium in these desperate cases have exceeded all thought of possibility of a half dozen years ago. With the utmost desire to avoid that seeming of over-enthusiasm which provokes rather a smile than belief, I can nevertheless definitely and very seriously make the following statements, behind which is clinical evidence of the most convincing character wherever radium has been in routine use.

Used as a routine prophylactic, whether symptomatic bleedings have occurred or not, cervix carcinoma can be avoided by early use of radium.

Used in extreme early cases, a cervix carcinoma can be aborted.

In its prophylactic use in conjunction with hysterectomies, we shall soon have the strongest presumptive evidence that the use of radium is absolutely indicated. (The definite use of radium in this manner is not yet five years old.)

In a few operable cases treated by radium by reason of failure of consent to operation or presence of contra indications, as far as can be deduced from such vicarious cases, radium has afforded at least as good average results as surgery in the given case.

As a palliative measure and the one affording the best chance of clinical or actual cure, even if remote, radium is now the measure of election in border line and inoperable cases. It can be depended upon to produce a clinical cure in one-third of the cases, and great improvement up to one-half. Cases where no benefit at all results, are very rare, and are probably due to faulty application, or the not infrequent impossibility of making adequate applications at all with the limited amount in the hands of most practitioners.

The class of operable cases is still mooted. The general consensus of opinion, as yet, is that operable cases should be operated. But this view rests upon no proven foundations, and the view that radium treatment, in this line also, should be admitted to serious sustained trial, is rapidly finding support.

Why, in the face of the significant accumulating results in the handling of desperate conditions, most surgeons should continue to deny a fair trial of radium in the operable class, might be explained upon various grounds, but fear of committing himself to a groundless sacrifice of life can scarcely be the reason. They are daily taking such risks in other directions under far less scientific sanction than has been furnished by now for radium. In a wide acquaintance among the world's greatest clinicians even in Japan, I have always found them knightly-honest where definite scientific truth is concerned. But it has more than once occurred to me that surgeons may be biased by a *subconscious amour propre* which creates a subconscious inability to take under consideration at all, the very possibility of turning over to the radium practitioner a field which, up to now, has been exclusively their own; a variety of *esprit de corps*, as it were. On the other hand, radium is scarce and possessed by only a few, whereas every operator has his surgical hand. Therefore the average lesser practitioner, where he can feel conscientiously justified by the above consensus of the greater clinicians, will keep and operate the case and earn his fat fee. Thus, there is a force from neither above nor below to press for the trial of radium. This state of affairs will continue to hold until some brave, firm and far-sighted clinician of prominence will scuttle this consensus of opinion

by publishing the results of one hundred carefully selected operable cases, as carefully selected as is now done for operative statistical purposes.

When that day comes, I am of the opinion that radium therapy, in the "operable" cases also, will take its place alongside of surgery, probably each method having its settled set of indications.

In connection with our subject you will probably desire a few words in regard to methods of radium treatment, say, of carcinoma of the cervix.

Diversity of methods and details in a department so new are naturally to be expected according to the nature of the case, and in different hands; but the general plan is fairly uniform. My own methods are colored to some extent by the views of the Vienna clinics where I have worked for many years, but except in the matter of dosage, I find that the general plan of application has, in the matter of radium, worked out in large measure very similarly on both sides of the water.

Roughly, we divide treatment of carcinoma cervicis into three serial weeks, each serial separated by an interval of four weeks, more or less, the latter to allow contraction of the growth and thereby improved later accessibility, as well as the securing of some unloading from the system of accumulated products of carcinomatous cellular necrosis.

Each of the three serials consists of ten to twelve hours nightly (or daily) for five or six consecutive days. Occasionally symptomatic indications dictate a day of intermission. The aggregate of the three serials should not comprise less than 7,000 milligram-hours, meaning by this, the equivalent of forty element-milligrams of radium applied in situ for 180 hours.

It is always of advantage, if possible, to use more than one applicator in situ at the same time, thus obtaining "cross-fire;" but preparations containing less than the equivalent of thirty milligrams of elementary radium are not sufficiently effective for certainty of results; also say, forty milligrams, in two carriers, are far less effective than forty milligrams in one carrier. Applicators of less than twenty milligrams might, at times, only stimulate the growth. Carriers of over fifty or sixty milligrams are believed by Vienna clinicians to be too uncontrollable and too destructive for use with reasonable safety. It seems to be borne out by clinical experience as observed in Vienna and other places over there, that radium has its definite dosage and that less or more than this dosage affects the case less happily, even in the absence of actual accident from insufficient or displaced screening.

In this country some clinicians use up to one hundred (or even more) element-milligrams in single carriers. It appears from Kelly and Burnham's reports, that for some reason not very clear as yet, massive heroic dosage obtained from the highly concentrated solidified emanation of radium may be safely used, and with splendid results. However this latter method requires a complicated plant and an expenditure in radium of capital very rarely available.

(Of course, all these remarks concerning dosage have to do with the treatment of cervical carcinoma only. Many other conditions require far higher and far lower dosages than here enumerated.)

Except when the uterine tumor is very large, careful blocking off of the rectum and bladder by appropriate metallic screens in the vaginal fornices are obligatory as a defence of the rectum against the obstinate and distressing proctitis to which it is exceedingly liable and for prevention of fistulæ and other still graver accidents.

Where the tumor is large and nodular it is sometimes advisable to make a canal in accessible nodules for insertion of the Domenici tube, preferably with a trocar.

A serial treatment is, and should be, accompanied by systemic reaction, marked by temperature from 99 to 102, malaise, headache, some abdominal distress and nausea—evidence of systemic absorption of the products of destroyed tumor tissue; but with drainage well maintained, these symptoms are rarely sufficiently marked to prevent reading or sleeping. Three or four days after cessation of the serial, this systemic reaction abates and is followed by invigoration and gain in every direction.

Hemorrhage and pain generally cease finally in the course of the first week of treatment, with co-incident abatement or disappearance of fetor. When the second serial is due, examination usually reveals a decrease in size of the tumor and movability is frequently more or less restored. With the approach of the third serial, if the growth was not too extensive in the beginning, the patient is sometimes found apparently cured. However the third serial must invariably be insisted upon and the patient kept under long subsequent observation.

Lesions of the heart and lungs in general offer no complication in radium therapy, but from what has already been said it will be gathered that the emunctories should be in fair order. Also, at the time of radium treatment there should be undertaken no excochleation or other measure having the effect of closing drainage from the growth. Several deaths have followed

a disregard of this precaution. Moreover the "cauliflower" excrescences and other copious surface products of the tumor rapidly fall away under radium alone. The most that may be advised in the way of surgical interference preceding the application of radium is, if necessary, barely sufficient snipping away of such presenting material as would hinder the daily finding of the cervical canal when the carrier is placed in position.

Threatened renal insufficiency dictates a modification or intermittence of the applications; rarely diuretics. With ever the possibility of proctitis in mind, the imperative free daily bowel movements must be secured by the least irritating of measures.

Finally, after what has already been said, it seems obvious that unless the home is a very exceptional one, every case of cervical carcinoma treated by radium should be a hospital case, under the best of special nursing, both in justice to the patient, and to the physician as well, whose precious tiny radium carriers can be so easily lost or irretrievably injured by the smallest carelessness or accidental lapse of the fixed discipline which must vigilantly be exacted in their protection. A Domenici tube suitable for this work is about fifteen millimeters long and four millimeters in diameter and its value will approximate $5,000 and upward. They have been repeatedly lost in the water closet, the bed pan, and even in the discharges.

Gentlemen, I have already hinted at dangers connected with the use of our remedial agent. In conclusion, I would like to add a few more words on this head. Again, like the x-ray, radium can be a two-edged weapon in the hands of him who does not know his radium.

He who handles radium should be fitted by nature for the work. We speak of the "surgical hand." It is even more appropriate to speak of the "radium hand." The radium specialist, almost more than any other, has to meet with conditions which try the inventive genius to the utmost. Nay, he must even be actually an inventor; for unlike the surgeon, he can not turn to a catalog and find copious selections of the instruments needed in his work. Conditions which try his ingenuity to the utmost and complexes requiring nicety of judgment behind which there is, as yet, little precedent to guide him, are not exceptional, but the usual features of each and every case.

He should be a specialist in this or in related work. Unless he be an exceedingly exceptional man, radium ought not to be employed by the general practitioner, whose time is too multifariously absorbed to leave it possible for him to acquire the special dexterity and aptness which is the *sine qua non* of success, in the employment of so delicate and dangerous an agent. It even requires a special training and thorough knowledge of the nature and peculiarities of radium to avoid losing or ruining the preparation.

As yet, we have no report for radium of the production of those unhappy malignant degenerations of the skin which for awhile attended x-ray work, but radium has dangers of its own, and there have been a number of fatalities. I have correctly remarked that radium has a selective action upon morbid tissue; but that does not mean that it will not affect normal tissue. A powerful preparation placed, for instance, within the cervix, and improperly screened or having suffered displacement of the screens during the long hours of the night, can be the agent of most regrettable accidents.

Radium is freely sold to any comer, and may even be rented by him who pleases to pay the necessarily high rental. It is desirable that radium be freely sold, for this beneficent agent should be in as many competent hands as possible, and it may fairly be presumed that whoever is willing to make the heavy investment will be interested in it to the degree of studying the literature and informing himself, at least after he obtains his radium sufficiently well to enable him to treat patients with at least a minimum of accidents. But the vicarious rental of the article to all comers brings up an ethical consideration which directly involves the physician's conscience. Such an occasional renter will seldom fit himself to handle patients with safety; and the man does not live who, acting alone upon directions from a distance, will not do more harm than good with it, and more harm than good to the cause of radium in general. Let the physician who wishes to use this delicate agent at least own his radium. The vicarious rental should be frowned upon, unless the renter is duly qualified to use it.

Gentlemen, I thank you for your kind interest and attention.

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D. S. FAIRCHILD, Editor.....Clinton, Iowa
T. B. THROCKMORTON, Business Manager.....Des Moines, Iowa

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THE DES MOINES SESSION IOWA STATE MEDICAL SOCIETY

The recent session of the Iowa State Medical Society may well be regarded as one of the most successful in its history, particularly in relation to attendance. There were something above 700 registered.

It was a disappointment that Dr. Harvey Cushing could not be present, but equally as good a representative appeared in Dr. E. Starr Judd of Rochester, Minn.

The interest attending the preparation for medical service in the war exercised a somewhat disturbing influence on the general meeting, but it could hardly be said that the attendance at sessions was smaller than usual or was the interest in the program less.

The useful feature in preparing the program for the State Society meeting was represented in the number of papers that related to the same subject. This admitted of a symposium grouping and a more exhaustive study of particular branches of medicine. One of the difficulties that always confronts a program committee is in securing men who will steadfastly carry out their agreement to prepare papers and get them ready in good time for the making up of the permanent program.

The banquet which was a special feature of the meeting, contributed much to the social side of the occasion, while it was said that very few burdened their stomachs excessively, the literary program was to be specially commended. We have rarely had the pleasure of listening to so brilliant a talk as by our friend Sampson of Creston. It may therefore be said in general terms that the Sixty-Sixth Annual Meeting of the State Society was profitable in every particular.

The report of the Committee on Workmen's Compensation shared the fate of the report of last year, by being laid on the table without action. A motion was offered by Dr. Duhigg to the effect that the report be not received. This was hardly in accord with the courtesy which is generally extended to reports and if it had been accepted, would have placed the State Society in a state of antagonism to a law already on the statute book, and which cannot be repealed by the House of Delegates and must be the law until the legislature acts in the matter, and it is fair to presume that as more than thirty states have already adopted some form of compensation law, that the law will not be rescinded by any future legislature. It is to be feared that an antagonism directed against what has come to be recognized by all students of economics, as one of the important measures of industrial progress, will place the profession in an unpleasant attitude. However, a closer study of the question will bring about many changes, both in the mental attitude of the medical profession and the liberality with which the profession is treated. It is possible that our committee on medical legislation feel that they have such a strong hold upon the legislature of Iowa that they would be able to bring about a modification of the law, which would be to their liking. Wiser councils prevailed and no action was taken which committed the Society to any definite policy, and the matter is now in such shape that any medical man can exercise his own pleasure in accepting or refusing to render service under the compensation act.

There are a few things to be considered by each member when the subject of workmen's compensation comes to his attention. First, does he care to render service to injured persons whose employment brings them under the operation of the workmen's compensation law? If he feels that the sum provided for by the law is too small, he can of course reject the service. If he thinks the compensation is adequate under the circumstances, then he can freely accept it.

The question of workmen's compensation is considered by the lawmakers as a better provision for doctors' compensation than when the workman was left to pay his own bill. There is certainly no anxiety on the part of the industry to increase their expenses by providing for the doctor bill in case of injured employe; the law mak-

ing such a requirement on the part of the employer and compelling the employer to carry the insurance in reliable companies. The insurance company itself and the employer reach an agreement as to the amount which should be paid out for medical service. A private company carrying business in Iowa, uses 65 cents of it in expenses in order to convey $1 into the pocket of the injured employe. Now it is to be presumed that if the state would take upon itself the expense of administering this insurance, that the expenses of securing business, etc., would be eliminated, and the cost of insurance would be reduced to the employer at least one-half. Whether this would result in increase in the amount of money paid to the doctor for his services, would be of course questionable. The time may come that the employer will have so far consulted his own interest as to insist upon state administration of workmen's compensation, and the state instead of a private insurance company, will pay the doctor his fee. The private insurance companies have antagonized state insurance on the ground that it would seriously impair their business in this kind of work.

We, as medical men, are interested chiefly in a fair compensation for our services regardless of whether the insurance is administered by the state or by private companies as it is now. From a purely selfish point of view, we are to consider not what an employer of labor is able to pay or what an insurance company is able to pay, but what the employer and the insurance laws may agree upon, either voluntarily on the part of private insurance companies or obligatory on the part of the state as the carrier of insurance. We have hoped for some years, or since the workmen's compensation became one of the fixed facts in regard to industry, that the profession would unite in establishing friendly relations with workmen's compensation commissioners, and bring about legislation which will be fair to all parties concerned, but the refusal of the profession to have anything to do with this matter, will only bring an unlimited amount of trouble on themselves.

The House of Delegates authorized the Journal to add a section on Public Health to its columns. The recommendation grew out of the fact that there is a large number of local health officers who are more or less active in bringing about improvements in local health matters and helping by their influence to improve ways of living. We know that the most disheartening thing about public service is the indifference of the people. It is a good natured indifference that seems more deadening than active opposition; it is so hard to fight dead things, but active opposition promises a victory if we fight hard enough. Arrange a good lecture for public welfare measures and only a few curious people attend and wonder what it is all about; a moving picture is more interesting. Your enthusiasm suffers a shock and you feel yourself, that a typhoid fever epidemic is more interesting and far more profitable.

That people are not entirely indifferent is shown by an undertaking of the Clinton County Medical Society. The president and the secretary, Dr. Jordan and Dr. Heusinkveld, conceived the idea of inviting Dr. W. A. Evans of Chicago to come to Clinton and deliver a lecture on public health. Several ministers approved of the plan; one of the largest churches was secured, and was well filled with the leading people of the city, constituting one of the most interested and appreciative audiences we have seen.

There is reason to believe that the people are not indifferent to their relations to the medical profession; they do not understand what the relation really is. Some think the profession is a trade with various "jokers" in it, like holding the patient's hand and overflowing with sympathy; another, sacrificing income to prevent the dear people from having typhoid fever, tuberculosis, etc. Still another sees the willingness to relieve the suffering one by removing the appendix or gall-stones by a more or less generous commission arrangement. We are quite sure not one in the Clinton audience thought of this at the Evans lecture, for it was made to appear that we were a part of the general public and expected to gain as much by improved habits and customs as other members of the public. These are merely suggestions, but we believe that at least a few rays of light illuminate the field of the Society's future activities.

The bulletin published by the State Board of Health presents to the public, the official doings of the board, but Prof. Boyd thinks the local health officers can confer together through the columns of the Journal, and something will come of it. We shall look to him for inspiration and for some plan which his interests, experience, and knowledge, will suggest.

Among other matters submitted to the House of Delegates was a resolution offered by Dr. Harris of Grinnell, which was disposed of without discussion. The serious difficulty with the resolution was that but few understood what Dr. Harris meant and there was no opportunity for a discussion.

Dr. Harris has a well defined idea that all efficient medical legislation is the product of well considered plans worked out and presented to the several members before they take their seats as law makers; that a steering committee is in itself of but little avail when brought into service after the legislature has convened. We are of the opinion that a legislative committee is an important body but should be used very little during the session. We believe as a rule it does more harm than good. On several occasions we have been convinced legislative committees after a medical hearing, adjourn with some resentment, if not disgust. The Committee on Medical Legislation should be a rather large committee, made up of experienced men representing the different lines of medicine which are likely to be affected by legislation and shall serve as a reference committee, have hearings with men who think that certain conditions need legislative consideration, and then correlate what measures seem essential for the particular time and session, and advise each county society through its secretary. In this way, members of the profession can have friendly conferences with their home member and thereby secure the legislator's co-operation in advance, *i. e.*, educate as many individual legislators as possible before the legislature meets and afterwards during the session, remind him by letters or by personal conferences. We have seen the waste of influence in so many members presenting ill considered measures which are almost certain to fail and confuse the main issues. In this way, a "Conference Committee on Medical Legislation" may perform a real service. Furthermore this well informed committee may on invitation, appear before the legislature or a committee of that body, to furnish such information as may be requested.

We believe some method of this kind will be more dignified and efficient than the one in operation at the present time which, as a matter of fact, has only been saved from failure by the home physicians.

THE NEW YORK SESSION OF THE AMERICAN MEDICAL ASSOCIATION

The sixty-eighth annual session of the American Medical Association was remarkable for two reasons: first, because it was in New York, and second, because it was in the center of wealth and industry of the American continent, and of its nearness to the official capital of the United States.

The atmosphere was palpitating with the great crisis before the country. There was no excitement but there was evident on every hand a grim determination to perform to the fullest extent the duty our country had assumed. There was no boasting and the American mind at least for once was sobered to a realizing sense of the greatness of the undertaking. There were many medical officers of the army present, and were busy night and day answering questions that the President nor any living being could answer, but they did their best. Major General Gorgas occasionally appeared in the lobby of the "Astor" but was instantly captured. On one occasion, he stopped for a moment to speak to the writer when a doctor in full pursuit, ran against the general and was thrown headlong to the floor; we modestly retreated to a safer place.

The address of the incoming president of the association, Dr. Charles H. Mayo, was an eloquent appeal to the profession for the big things that scientific medicine stands for.

On Thursday evening, June 7, occurred probably the most dramatic meeting the association has ever known—the "Patriotic Meeting of the American Medical Association" under the direction of Dr. Alexander Lambert, president of the New York Medical Society. The speakers were Hon. John Purroy Mitchell, mayor of New York; Hon. Dudley Field Malone, president George E. Vincent and Colonel Theodore Roosevelt. Music by Sousa's band. Singing—Rule Britannia, La Marseillaise and the Star Spangled Banner by M. M. Frances Alda and the Metropolitan Opera Chorus. The enthusiasm was beyond description. It was an occasion never to be forgotten.

The work of the sections was of the usual character, not disturbed by war enthusiasm, and the deliberations of the House of Delegates was conducted with the usual dignity and character. The prominent part taken by the Iowa delegates was a credit to our state.

ENLISTMENT OF MEDICAL MEN

The source of greatest anxiety on the part of the Government is the slowness of enlistment on the part of the medical profession. It is well known and appreciated by the President and the War Department that an army without a full complement of medical officers must suffer the greatest disaster. In the old days, medical officers were for the purpose of treating the sick and caring for the injured. Today medical officers are a fundamental necessity to the existence of an efficient army. There is need of twice as many medical officers and twice as much skill as in other days. Sickness of an infectious origin

should not exist; acute venereal diseases should be prevented by the utmost watchfulness and inspection. All this can be done if there are enough conscientious and skilled doctors. If there are not, the experiences of the Spanish-American war may be repeated.

There is danger of another form of disease among soldiers; poliomyelitis. We were informed by a medical officer of high rank that much apprehension was felt in this direction, but that by sufficient watchfulness and inspection of "carriers," this dreaded disease might be prevented.

No argument is needed to show the immense responsibility that rests upon the medical profession in this crisis. Never in the history of medicine has there been a time when the profession could show better, the altruistic nature of their calling and prove to the public the sincerity of their claim to high consideration in public welfare activities. Often in public ways has the medical profession complained of neglect. Can we not show in this hour of public need that we are all that we have claimed to be and more? May we not defy critics to lay blame at our door? If we fail now may not the fathers, mothers and wives of fallen soldiers from disease or from wounds neglected; from lack of trained medical men, join in feeling that medical men are selfish and unpatriotic and that their claims to altruism a vain boast? We do not believe that the medical profession will fail in the paramount duty of furnishing what no other class can furnish; aid to the young men who are devoted to the country's great need in the Great War that is now upon us.

MEDICAL PREPAREDNESS

At a recent meeting of the Medical Editor's Association, resolutions were adopted calling the attention of the medical profession throughout the United States to the necessity of volunteering in the Officer's Medical Reserve Corps for service.

A committee was appointed from the Editor's Association, to take into account the manner in which medical journals could be serviceable in helping the enlistment of a sufficient number of physicians to meet this emergency need. Among other things, it was agreed that the medical journals for the next three months should publish a copy of the "Application for Appointment in the Medical Reserve Corps, U. S. Army," which can be torn out and sent either to the surgeon general of the army at Washington, D. C., or for Iowa, to the surgeon in charge of Fort Des Moines, First Lieut. J. E. Kessell. The difficulty in sending applications direct to Washington is the delay in reaching the surgeon general's office for consideration. It may not be known to the profession generally that the surgeon general's office is flooded with communications of all kinds and it will be some time before his attention can be called to any particular matter, even so important as the examination of applicants, and it will be an economy of time to communicate with the representative of the office at Des Moines.

TO THE MEMBERS OF THE AMERICAN MEDICAL EDITORS' ASSOCIATION

Your committee appointed June 4, to consider appropriate ways and means to aid in recruiting the personnel of the medical reserve corps of the United States military forces, desires to present the following resolutions and emphatically urge their immediate adoption.

Whereas the need of medical reserve officers for both the army and navy is the paramount question of the day, therefore be it

Resolved, that (1) the members of this Association pledge themselves to publish prominently at least three times within the ensuing three months, a copy of the official personal application blank with an explanatory comment on the proper procedure to be employed in transmitting the same to the surgeon general's office.

(2) That all medical journals of this country be urged to present editorially the needs of the military services in this crisis and the immediate necessity for securing the full complement of medical officers for the same.

(3) That this committee be continued in office after this meeting and be empowered to expend for carrying out the provisions of this resolution a sum not to exceed two hundred and fifty dollars.

(4) That a copy of these resolutions be forwarded to the surgeon generals of the army and navy and that the Association of American Medical Editors in convention assembled herewith pledges its hearty and unstinted support of all measures designed for the development of the medical forces in this hour of need.

Seale Harris, M.D., secretary Southern Medical Society; editor of The Southern Medical Journal.

T. L. Stedman, M.D., New York; editor of the Medical Record.

H. E. Lewis, M.D., New York; editor American Medicine.

D. S. Fairchild, M.D., Clinton, Iowa: editor Iowa State Medical Journal.

G. W. Kosmak, M.D., N. Y.; president American Medical Editors' Association, co-editor American Journal Obstetrics.

Robert M. Green, M.D., Boston; editor Boston Medical and Surgical Journal.

J. MacDonald, Jr., M.D., secretary American Medical Editors' Association, managing editor American Journal of Surgery.

Referring to the application blank:

First—This application after being filled out, must be sworn to before a notary public.

Second—It must be accompanied by a county clerk's certificate certifying to the fact that the applicant is a licensed practitioner.

Third—Two letters from citizens testifying to the character of the applicant must accompany the application.

As a matter for editorial comment, here is the situation.

We must raise 20,000 physicians, and the members of the American Medical Editors' Association are going to do their share.

At the present time there are less than 500 physicians in the regular Medical Army Corps, about 2,500 in the Medical Reserve Corps and about 800 in the Militia, or a total of about 3,800 physicians when we must have 20,000.

Commissions are accorded in the Medical Reserve Corps on the basis of the first lieutenant, captain and major, with respective pay of $2,000, $2,400 and $3,000 a year. No physician is commissioned lower than a first lieutenant.

BASE HOSPITAL UNITS

On May 1 it was announced from Washington that in response to the urgent request of the European Allies, whose commissioners are now visiting America, the United States will immediately mobilize and send to Europe for service, presumably somewhere in France, six of its base hospital units which were organized in this country last year. The following are the units selected, with their chiefs of staff.

Base Hospital No. 2, organized at the Presbyterian Hospital, New York, Dr. E. G. Brewer, director; No. 4, Lakeside Hospital, Cleveland, Dr. George W. Crile; No. 5, Medical School of Harvard, Dr. Harvey Cushing; No. 10, Pennsylvania Hospital, Philadelphia, Dr. Richard Harte; No. 12, Northwestern University, Evanston, Ill., Dr. Frederick Besley; No. 21, Washington University Hospital, St. Louis, Dr. Frederick T. Murphy.

OFFERING SERVICE WITH PROVISOS

A recent letter from the office of the surgeon general of the army says that a large number of medical men are offering their services "in case of emergency" and for "their specialty only." It should be made plain that the emergency has already arrived and that the department is in urgent need of every qualified medical officer it can obtain and that men who accept commissions in the Medical Reserve Corps must be ready for active duty of such character as the exigencies of the service may demand; that there will be for all of them a great deal to learn in addition to professional knowledge which they now have, whether they are specialists or general practitioners. It should be quite as easy for the specialist to learn his other duties as a medical officer as it will be for the large number of men throughout the country who are accepting line commission without any knowledge at all of the military service. "If you can, through the columns of The Journal," says the letter, "explain this matter to the profession at large, it will save this office a very great deal of unnecessary correspondence and may avoid dissatisfaction among those who are tendering only qualified services."—(The Journal of the American Medical Association.)

COMPULSORY MOBILIZATION OF THE ENGLISH MEDICAL PROFESSION

On April 21, Lord Derby, secretary of state for war, addressed a letter to members of the medical profession in Great Britain stating that it had become essential to establish a large number of hospitals overseas in the various theatres of war, and that in order to allow this to be done with great rapidity, it was essential to secure the services of every member of the medical profession who could possibly be spared from England. The war cabinet decided as the first step in this process that every medical man of military age—under forty-one years—should be called up at once. Then it is to be determined whether he can be spared from his locality, and if not, steps will be taken for securing substitutes for his work. Every medical man summoned is instructed to communicate immediately with the Central Medical War Committee or the Scottish War Emergency Committee any circumstances which make it impossible for him to go. The date for the call was May 6.

Following the publication of Lord Derby's letter to the medical profession a discussion was held at a special joint meeting of the Central Medical War Committee of the British Medical Association and the Committee of Reference of the Royal Colleges in whose hands, up to the present, has been the responsibility for protecting the medical needs of the civilian community while meeting the requirements of the army. It has been left to this committee to determine how many and what physicians could be spared at any given time from civilian work in any particular community. The joint committee adopted a resolution to the effect that it could not continue this work unless the war office would undertake not to grant any commission to a doctor even though volunteering for service, whom the committees considered indispensable for civilian work for the time being. The reason for this action was the great shortage of physicians existing in several places.

PERSONAL HISTORY OF APPLICANT FOR APPOINTMENT IN THE MEDICAL RESERVE CORPS, UNITED STATES ARMY

Give your name *in full* (including your full middle name):

The date of your birth: The place of your birth:

When and where were you naturalized (if of alien birth)?

Are you married or single? Have you any children, if so, how many?

What is your height, in inches? Your weight, in pounds?

Give the nature and dates of all serious sicknesses and injuries which you have suffered:

Do you labor under any mental or physical infirmity which could interfere with the efficient discharge by you of the duties of a medical officer?

If either parent, or brother, or sister has died, state cause and age in each case:

Do you use intoxicating liquors or narcotics; if so, to what extent?

Have you found your health or habits to interfere with your success in civil life?

What academy, high school, college, or university have you attended? State periods of attendance from year to year, and whether you were graduated, giving date or dates of graduation:

Name any other educational advantage you have had, such as private tuition, foreign travel, etc:

Give all literary or scientific degrees you have taken, if any, names of institutions granting them, and dates:

With what ancient or modern languages or branches of science are you acquainted?

When did you begin the study of medicine, and under whose direction? His residence?

How many courses of lectures have you attended? Names of colleges and dates:

When and where were you graduated in medicine?

Have you been before a State Examining Board? If so, state when, where, and with what result:

Have you had service in a hospital? If so, state where and in what capacity, giving inclusive dates of each kind of service:

What clinical experience have you had in dispensary or private practice?

Have you paid particular attention to any specialty in medicine; if so, what branch?

What opportunities for instruction or practice in operative surgery have you had?

Have you previously been an applicant for entry into the United States service? If so, state when, where, and with what result:

Are you a member of the organized militia? If so, state with what organization and in what capacity.

Have you been in the military or naval service of the United States? If so, give inclusive dates of service with each organization, designating it:

In case of war or threatened war, will you accept active service for duty with the Army, should your services be needed?

What occupation, if any, have you followed other than that of student or practitioner?

Present or temporary address:†

Permanent residence:†

I CERTIFY that to the best of my knowledge and belief the above statements are true.

Signature ☞

Date,....., *191*

Subscribed and sworn to before me, this.....day of.....A. D., 191.....

[SEAL] .....

[Signature and official title]

†The candidate should give his present address for correspondence, and also his permanent address to which he desires commission sent should he be appointed.

FORM 149.
W. D., S. G. O.
(Revised March 6, 1912)

Journal of the Iowa State Medical Society July 15, 1917

.....*M.D.*,

OF

.....

.....

.....*191*.....

FURNISHES PERSONAL HISTORY

IN CONNECTION WITH

APPLICATION FOR APPOINTMENT

IN THE

MEDICAL RESERVE CORPS,
U. S. ARMY

.....*Inclosures*

For instance, one town with a population of over 20,000 in which the chief industry is the manufacturing of chemicals and munitions, had but four physicians, all of military age. Another town with a population of over 60,000, in which the chief industry is ship building had but ten physicians, seven of whom were of military age, and in a country town with a population of over 20,000 there were four physicians of whom three were of military age. There are thus today in England numerous districts in which there is only one physician to over 5,000 people. The committee pointed out to the war office that it would certainly be inadvisable to take all the physicians away from the first town mentioned and leave a population of 20,000 in a munitions area entirely without physicians. These facts were presented to Lord Derby under date of April 25.
—(Journal of the American Medical Association.)

Letter of the Secretary of State for War

War Office, April 21, 1917.

Sir:

I am desired by the war cabinet to ask your earnest consideration of the following matter:

The enemy, in total disregard of the accepted tenets of civilized warfare, have deliberately instituted a submarine campaign against hospital ships.

It has therefore become essential that a large number of hospitals should be established overseas in the various theatres of war for the treatment of the sick and wounded.

In order to allow of this being done, and done with great rapidity, it has become essential to secure the services of every member of the medical profession who can possibly be spared from this country. The figures in the possession of the Government make it plain that the number of doctors who could be spared from this country are more than are needed to supply the military requirements if adequate steps are taken, by the doctors over age or by other means, for doing the work in this country of the men who must now be taken for medical service overseas.

For these reasons the war cabinet have decided, as the first step in this process, that every medical man of military age must be called up at once under the military service acts, in order that he may thus be made available at once, and that, if he cannot be spared from his locality without arrangements being made for carrying on his work, his case may be immediately investigated and decided upon, and steps taken for securing a substitute for that work.

Every medical man thus summoned must, therefore, communicate immediately to the Central Medical War Committee (or the Scottish War Emergency Committee), if he is of opinion that circumstances (personal or public) make it impossible for him to go—e. g., that he can only be spared from his present duties when some arrangements have been made for doing his present work.

May I express the earnest hope that every doctor over military age will immediately offer his services to the local Medical War Committee of his area as willing to undertake any substitution work within his capacity which would help to release any man of military age who cannot otherwise be spared.

The war cabinet recognize to the full the great services that the medical profession has rendered during the present war, and regret that the barbarous action of the enemy compels a further call on their services, and a resort by the government to measures which the army council had intended to avoid, and could still have avoided, but for this new phase of German outrage. They recognize that the new procedure must involve additional sacrifices for the people of these islands, and must fall heavily on the medical profession. But the war cabinet trust and believe that this call will be met in the same splendid spirit with which previous calls have been met, and that members of the medical profession and the public whom they serve will ungrudgingly make whatever sacrifices may be necessary in order that our soldiers abroad may have the same attention and care which medical science provides for their comrades at home.

I am, Sir, your obedient servant,

Derby.

(British Medical Journal.)

TISSUE FRAGMENTS AND WOUND INFECTION

Dr. Kenneth Taylor, director of the Robert Walton Goelet Research Fund, publishes in the Annals of Surgery, for December, 1916, some observations on the danger from fragments of detached tissue in wounds on account of the load of bacteria they may carry and the importance of considering devitalized tissue when treating the wound with a view of reducing the infection to a minimum.

After careful experimental work, Dr. Taylor offers the following summary and conclusions:

"From these four experiments the following facts may be restated:

1. The implantation of a sterile foreign body or a small piece of sterile dead muscle alone produced no macroscopic lesions.

2. The implantation of a foreign body infected with tetanus bacilli, staphylococcus aureus, B. aerogenes capsulatus, or streptococci produced usually a localized abscess formation without invading the surrounding normal tissues.

3. The addition of a small portion of dead muscle tissue in the region of the infection produced a more rapid and diffuse inflammatory process with earlier and more extensive abscess formation than the wounds containing only bacteria or those containing infected cloth.

4. The implantation of infected cloth together with muscle tissue produced a more active and destructive lesion than the implantation of either alone. When infected with tetanus bacilli the presence of

dead muscle fragments determined a high mortality.

5. Of the two substances, cloth and devitalized muscle, in the presence of infection, the muscle produced the more acute infective process.

Conclusion—The result of these experiments suggests that in the cleaning of fresh wounds at least as much care should be exercised to remove separated and devitalized fragments of soft tissue as is taken to remove other foreign bodies.

In all operative procedures where blunt dissection is practiced it should be remembered that torn fragments of devitalized tissue may remain to become a ready soil for the incubation of any bacteria which may gain access to the wound."

EPIDEMIC MENINGITIS AND THE ARMY

Of the acute infectious diseases none is feared more than epidemic meningitis, and justly, because of the frightful death rate, to say nothing of the suffering and disability. Even under the most favorable circumstances, which means the prompt intraspinal use of potent antiserum, it has not been possible to reduce the death rate much below 30 per cent. Consequently the importance of prevention cannot be overstated. The conditions in military camps and garrisons clearly favor outbreaks among soldiers, as shown repeatedly in the course of epidemics, and most recently by the outbreaks among British and Canadian troops. About 1840 the disease was carried from one end of France to the other by the movements of a certain regiment of infantry in which the infection had established itself. Like diphtheria, epidemic meningitis is spread by contact with the sick and with healthy carriers, and as the meningococcus carriers are always more numerous than the meningitis patients and move about freely (unless detected and detained), the carrier undoubtedly is the most important agent in spreading the disease. The presence of an occasional carrier among troops or under other conditions which bring people into close contact may result in the development of a large number of more or less temporary carriers of which a certain number for various reasons not clearly understood fall sick of the disease. —(The Journal of the American Medical Association)

The Chain Letter Asking for Subscriptions for Anesthetics, which was inaugurated by Miss Elizabeth Whitman, superintendent of nurses, New York Eye and Ear Infirmary, has reached as far West as Iowa, and a subscriber to the New York Medical Journal in that state has asked for information regarding Miss Whitman and the fund she is raising. Inquiry at the New York Eye and Ear Infirmary has brought the statement from the superintendent that she is thoroughly reliable, and that the funds are being disposed of in the proper channels, being turned over, at present, to the British Red Cross of America, of which Mr. Lepor Trench, 81 Fulton street, New York, is treasurer.—(New York Medical Journal.)

DR. ISOBEL ADDEY TATE

Dr. Isobel Addey Tate, who died at the Military Hospital, Malta, on January 28, was the daughter of the late Mr. John Tate of Portadown and Mrs. Tate of Belfast. She received her medical education at Queen's College, Belfast, and graduated as M.B., B.Ch., B.A.O., R.U.I., in 1899, and as M.D. three years later, taking the D.P.H.Vict. in 1904. She had filled the post of medical inspector of school children for Shropshire and also to the Lancashire Education Committee. At the beginning of the war Dr. Tate volunteered for work in Serbia, where she rendered valuable service, and was afterwards engaged at the Graylingwell War Hospital. She subsequently volunteered for service in Malta, where she expired after a short illness.

BOOK REVIEWS

DISEASES OF THE GENITO-URINARY ORGANS AND THE KIDNEYS

By Robert H. Green, M.D., Professor of Genito-Urinary Surgery at the Fordham University, New York; and Harlow Brooks, M.D., Professor of Clinical Medicine, University and Bellevue Hospital Medical College. Fourth Edition, Thoroughly Revised. Octavo of 666 Pages. 301 Illustrations. W. B. Saunders Company, 1917. Cloth $5.50 Net; Half Morocco $7.00 Net.

The fourth edition of this well known work has just appeared. The authors assure us in the Preface that they have utilized the accumulated experience of the five years since the third edition appeared in bringing the subjects treated of, up to date. Surgeons are fully aware that diseases of the genito-urinary organs are receiving much attention and that the periodical literature is full of discussions on the subject, which serves as an index to the activities in this direction, although much that is being written must necessarily be subject to revision.

The advantages offered by this book are that the reader who is not so situated as to profit by a large experience of his own, may be advised as to the value of studies and methods of practice that have borne the tests of investigation and experience. Only about thirty pages have been added. Considerable more space has been given to x-ray diagnosis. Anesthesia is more fully considered, especially local anesthesia which has come more into use since the third edition was published. Many valuable suggestions are made as to the preparation of patients for operation. It is quite impossible to refer specifically to all the changes in the text, but we find on comparing the several chapters, that much of the book has been rewritten to bring to the reader the most recent tested out methods of examination of patients and methods of treatment.

THE SURGICAL CLINICS OF CHICAGO

Volume I, Number 2, of 226 Pages With 29 Illustrations.

The contributors to this number are among the first surgeons of Chicago. Some of the notable clinics are by Dr. A. J. Ochsner on Hernia at Augustana Hospital, and by Dr. N. M. Percy also at Augustana Hospital on Pernicious Anemia, Treatment by Operative Methods and Transfusion.

The operative treatment consisted in removing the gall-bladder and spleen and blood transfusion. The technic is well illustrated in detail, the immediate results very satisfactory. The author well states that what the final result will be time will only tell. The treatment of this disease has been so hopeless in the past that we will wait with patience for anything that even promises better.

Surgical treatment of Lesions of the Colon has for several years excited the interest of the medical profession; we therefore welcome the clinic by Dr. A. D. Bevan at Presbyterian Hospital on this subject. Dr. Bevan presents eight cases to illustrate his lecture.

Dr. Louis A. Greenfelder at Michael Hospital presents an interesting case of Old Sub-Coracoid Dislocation of the Shoulder treated by operation.

Several other important clinics are presented of a character to make the April number of unusual value.

TEXT-BOOK OF OPHTHALMOLOGY

By Hafrat Ernst Fuchs, Professor of Ophthalmology in the University of Vienna. Authorized Translation From the Twelfth German Edition; Completely Revised and Reset With Numerous Additions Specially Supplied by the Author, and Otherwise Much Enlarged. By Alexander Duane, Surgeon Emeritus, Knapp Memorial Hospital, New York. Fifth Edition; 1007 Pages With 462 Illustrations. Cloth $7.00. Philadelphia, J. B. Lippincott Co., 1917.

The fourth edition of this book appeared in 1911. Needless to say that in the six years which have elapsed since the appearance of the last edition, there have been many advances in our knowledge of ophthalmology, and that these advances have been exceptionally rapid is shown in this new edition. The greatest criticism to be made against the fourth edition is that it is not well balanced. This is overcome by Dr. Duane who has made a number of radical alterations in the arrangement of the text, which makes the book more serviceable as a work of reference. Many of the important items, which in the former editions were massed as an appendix at the end of chapters, and whose value were obscured by this arrangement, he has split up into shorter sections. Many items in the fine print he has transferred to the text in direct juxtaposition to the portion where it was related. All the changes are too numerous to mention. In the chapter on glaucoma there have been many insertions, including Elliotts' summary of glaucoma theories. Squirrel-plague conjunctivitis and Samoan conjunctivitis are mentioned under special varieties of conjunctivitis with a brief and vague description of them. Numerous additions have been inserted in the chapter on trachoma and especially on etiology. The chapters on anomalies of refraction and accommodation have been considerably changed and added to; many American methods have been introduced. The last one hundred and thirteen pages are devoted to the subject of operations, this chapter being enlarged thirty-five pages, the same being rearranged and many new operations inserted.

The translator states that the changes have been made on his own responsibility. The book bears throughout evidences of careful and thorough revision. The subjects are handled in a systematic way and the definitions and explanations are clear and concise. The book is up to date and contains a lot of new accurate information in readily accessible form.

Weih.

DISEASES OF THE STOMACH, INTESTINES AND PANCREAS

By Robert Coleman Kemp, M.D., Professor of Gastro-Intestinal Diseases at the Fordham University Medical School. Third Edition, Revised and Enlarged. Octavo of 1096 Pages, With 438 Illustrations. W. B. Saunders Company, 1917. Cloth $7.00 Net; Half Morocco $8.50 Net.

The second edition of the work appeared five years ago. Since that time, some of the views relating to diseases of the digestive organs have undergone modification. Evidence has accumulated as to the value of medical treatment of chronic ulcers of the stomach. Many internists still hold that operative treatment is restricted to a limited number of cases. Surgeons insist that many of the cases in which surgery did not give lasting satisfactory results, was due to faulty technic, improvement in which has overcome many criticisms directed against surgical treatment. Kemp expresses the opinion that chronic ulcers of the stomach should be regarded as precancerous conditions and that the treatment should be surgical.

The author criticizes Lane's in regard to the influence of kinks in producing stasis and "auto-intoxication," which he regards as a misnomer—and should be abandoned, a view in which Adami fully concurs.

Dr. Kemp is not in accord with Lane and resorts somewhat less frequently to radical resection of the colon, an operation so much discussed.

A valuable chapter is given on diverticulitis, particularly of the sigmoid, which has excited much interest of recent years on account of the chronic form having been confounded with carcinoma, and on which carcinoma may develop.

A chapter has been added under the title of Vagotonia and Sympatheticotonia and Their Relation to Gastrointestinal Symptoms. This relates to func-

tional disturbances of the gastrointestinal tract upon which there has been much discussion and considerable difference of opinion, but has served to explain some obscure symptoms which could not be explained except by a study of the influence of the fibers of the vegetative nervous system on smooth muscles as the intestines, blood-vessels, gland-ducts and skin.

This book presents many helpful features both to the internist and the surgeon.

COMMITTEE ON FURNISHING HOSPITAL UNITS FOR NERVOUS AND MENTAL DISORDERS TO THE UNITED STATES GOVERNMENT

The National Committee for Mental Hygiene has created a sub-committee on furnishing hospital units for nervous and mental disorders to the United States Government, the project having been approved by Surgeon General W. C. Gorgas of the U. S. Army.

This sub-committee, of which Dr. Pearce Bailey of New York is chairman, is authorized to secure the services of alienists and neurologists to be commissioned in the Officers' Reserve Corps, Medical Section, and to serve in the neuro-psychiatric units which are to be attached to the base and other hospitals of the military services of the United States. Further information will be given, and application forms sent to physicians qualified in this branch of medicine, on application by letter or in person to The National Committee for Mental Hygiene, 50 Union Square, New York City.

RECOMMENDATIONS OF THE COUNCIL OF THE IOWA STATE MEDICAL SOCIETY ON THE RESOLUTIONS PASSED BY THE GENERAL SESSION IN REGARD TO THE CONSERVATION OF PRACTICE OF PHYSICIANS CALLED TO WAR

(For Resolutions see Minutes of General Session, page 270; also Transactions of House of Delegates, page 288)

On May 11, the House of Delegates in session at Des Moines by unanimous vote, concurred in the resolution passed by the general session of the Iowa State Medical Society to care for the practice of brother physicians who are called to the colors, and instructed the Council of the Iowa State Medical Society to formulate a definite plan with recommendations to the various county societies to so modify the resolution there passed as to meet local conditions, that justice might be done to all and no unnecessary hardship be imposed upon any member, and to have such recommendations of the Council printed in the Journal of the Iowa State Medical Society at an early date.

In obedience to this resolution, the Council submits the following plan:

First—Each county medical society is to appoint a committee of five, preferably the president, secretary and censors, to be known as the War Relief Committee.

Second—Any member of the Society who volunteers or is called to service in the army during the war with Germany is to meet with this committee and inform it of names of individuals and families who consider him as their family physician. The committee is to decide what names will be so considered, and to have the same printed and furnished each member of the Society.

Third—A physician when called upon to treat any one so listed, is to inform such persons that he will treat them during the absence of their family physician but that upon the physician's return, they are to be perfectly free to again employ him; and that a part of the charge made for his service will be paid to the brother physician's family.

Fourth—Physicians are to keep a separate account of work done for families so listed, and also a record of all expense incurred in caring for the case and when bill is paid to deduct this expense and pay to the wife or dependents of the brother physician one-half the remainder.

Fifth—This arrangement is to be continued during the physician's absence on duty, or in case of his death, during the continuance of the war, when it will be the duty of the United States Government to take care of the dependents, and this arrangement by the brother physicians shall terminate.

The Council fully appreciates the delicacy required in conserving a brother physician's practice and asks that each society take into account the financial needs of not only the physician who is called to the colors; but of the men at home to whom the burden of the work must fall. The percentage paid to the dependents should be adjusted to local conditions, country practice, bad roads and inclement weather, conditions admittedly necessitating a smaller per cent.

The spirit of brotherhood must be the rule to guide each physician in his endeavor to do his "bit" for his country, his profession and for World Democracy.

Respectfully submitted,
Paul E. Gardner,
Chairman.
G. C. Moorehead,
Secretary.

BIRTHS

Dr. and Mrs. Evarts Graham, of Mason City, a son.

Dr. and Mrs. Geo. W. Kester, of Grand Junction, June 8, a daughter.

Dr. and Mrs. E. M. Myers, of Boone, June 13, a son.

Minutes of the Sixty-sixth Annual Session of the Iowa State Medical Society, Des Moines, May 9-10-11, 1917

Wednesday Morning, May 9

The Sixty-Sixth Annual Session of the Iowa State Medical Society convened in the Shrine Temple, Des Moines, at 9:00 o'clock A. M., May 9, 1917.

The meeting was called to order by President J. F. Herrick, Ottumwa. Rev. John T. Noonan of Des Moines, gave the invocation, following which addresses of welcome were given by Hon. H. W. Byers, corporation counsel of Des Moines, on behalf of the city, and Dr. H. A. Minassian, Des Moines, for the profession, response being made by Dr. Wm. L. Allen, Davenport.

Dr. L. W. Littig, Davenport:

Mr. President, on behalf of the members of the Iowa State Medical Society, I present you with this gavel that you may be properly clothed with all the authority and dignity of your present position. This gavel is not only a symbol of authority, but will always remain for you a souvenir of the love and esteem which the members of the Iowa State Medical Society have for you.

The President: I can only say that I most heartily thank the members of the Society for this splendid gavel. I assure you that it will be my aim to use it only in the interest of the members of this Society. I also assure you that the authority which it symbolized shall be directed to the promotion of order and the good of the Society, so long as I shall have the honor of presiding over your session.

Dr. Mark F. Boyd, Iowa City, read a paper on "The Relation of Communicable Diseases to the Community and to the Physician." Discussed by Drs. A. C. Moerke, Burlington; D. N. Loose, Maquoketa; J. F. Herrick, and Walter L. Bierring, Des Moines; Dr. Boyd closing the discussion.

Dr. Walter L. Bierring, Des Moines, read a paper on "Method of Diagnosis of the More Common Valvular Heart Lesions With Prognosis." Discussed by Drs. C. P. Howard, Iowa City; J. W. Harrison, Guthrie Center; Eli Grimes, Des Moines, and F. M. Pottenger, Monrovia, Cal., the essayist closing the discussion.

Dr. E. M. Williams, Sioux City, read a paper on "Prenatal, Natal and Postnatal Lesions of the Cerebrum, With Resultant Conditions." Discussed by Drs. D. N. Loose, Maquoketa; Frank M. Fuller, Keokuk; L. W. Littig, Davenport, and Max E. Witte, Clarinda; Dr. Williams closing the discussion.

Wednesday Afternoon, May 9

Meeting was called to order by the President at 1:45 o'clock.

Dr. Arthur Steindler, Iowa City, read a paper on "Diagnosis of Chronic Bone Lesions." Discussed by Drs. M. J. Kenefick, Algona and Laura H. Branson, Iowa City; Dr. Steindler closing the discussion.

Dr. Eli Grimes, Des Moines, read a paper on "Goitre, Use and Misuse of Treatment." Discussed by Drs. Walter L. Bierring, Des Moines; B. G. Dyer, Ames and Chas. J. Rowan, Iowa City; Dr. Grimes closing the discussion.

The following papers were read as a symposium on the surgical condition of the kidney:

"Non-Tuberculous Infections of the Kidney," Dr. M. J. Moes, Dubuque.

"Tumors of the Kidney," Dr. R. E. Green, Creston.

"Functional Tests and Pyelography in Diagnosis," Dr. N. G. Alcock, Iowa City.

"Summary" of the symposium was presented by Dr. Charles J. Rowan, Iowa City.

The above papers were discussed by Drs. A. M. Pond, Dubuque; E. L. Rohlf, Waterloo; Henry Albert, Iowa City; C. S. James, Centerville; A. G. Fleischman, Des Moines; R. R. Chapman, Bridgewater; F. M. Pottenger, Monrovia, Calif., and H. V. Scarborough, Oakdale; Dr. Alcock closing the discussion.

Dr. Max E. Witte, Clarinda, then gave the Oration in Medicine, his subject being, "A Retrospect and a Prospect."

Thursday Morning, May 10

The meeting was called to order by Vice-President C. B. Taylor, What Cheer, at 9 o'clock.

Dr. W. B. LaForce, Ottumwa, read a paper on "Unusual Opportunities for Surgical Work and Original Research." (No discussion.)

Dr. W. H. Rendleman, Davenport, read a paper on "What Is Not Rheumatism?" Discussed by Drs. Murdoch Bannister, Ottumwa; G. N. Ryan, Des Moines; W. E. Scott, Adel; Geo. E. Decker, Davenport; Wayne M. Shirley, Carroll; Wm. Jepson, Sioux City and Frank M. Fuller, Keokuk; Dr. Rendleman closing the discussion.

Dr. Fred Moore, Des Moines, read a paper on "Acidosis in Children." Discussion opened by Dr. A. H. Beifeld, Iowa City.

Dr. Evarts A. Graham, Mason City, read a paper on "Acidosis in Surgery," discussion of which was opened by Dr. J. H. McGready, Independence.

The two papers were then jointly discussed by Drs. Walter L. Bierring, Des Moines; Murdoch Bannister, Ottumwa; Wm. Jepson, Sioux City and Geo. E. Decker, Davenport; Dr. Graham closing the discussion.

Major Thos. F. Duhigg, Des Moines, read a paper on "The Value of Hygiene and Sanitation in Camp." Discussed by Major W. S. Conkling, Des Moines; the essayist closing the discussion.

The following letter from Dr. Harvey Cushing was read by the President:

"I am sorry that I shall be unable to come to the meeting. Nothing but a state of war or an order from Washington connected with it would have prevented me from fulfilling my obligation to you on your program. Our base hospital unit is called out the middle of May and I shall practically have to give up all other work in preparing for it. We must

all recognize ourselves at present as under a state of war and our primary duty to the government whatever our personal engagements may have been. It is enormously disappointing to me to miss visiting you, for I had looked forward to it with the greatest pleasure.

Yours very sincerely,
Harvey Cushing."

Thursday Afternoon, May 10

The meeting was called to order by the President at 2 o'clock.

Dr. L. W. Littig announced the illness of Dr. G. G. Cottam, formerly of Rock Rapids, Iowa, now of Sioux Falls, South Dakota, and moved that the secretary be instructed to send to Dr. Cottam the following telegram: "The Iowa State Medical Society sends most cordial greetings to friend Cottam with hope for a speedy and complete recovery."

Motion seconded, and adopted by unanimous vote.

The following papers were read as a symposium on pleurisy:

"Symptomatology," Dr. J. W. Osborn, Des Moines.

"Etiology and Pathology," Dr. Guthrie McConnell, Waterloo.

"Diagnosis and Prognosis," Dr. W. J. K. Findley, Sac City.

"Non-Surgical Treatment," Dr. Robt. L. Parker, Des Moines.

"Surgical Treatment," Dr. Lawrence W. Littig, Davenport.

Papers comprising the symposium were discussed by Drs. F. J. Rohner, Iowa City; F. M. Pottenger, Monrovia, Calif.; W. E. Scott, Adel; James H. Goad, Afton, and Donald Macrae, Council Bluffs; Drs. Osborn, Parker and Littig closing the discussion.

Dr. F. M. Pottenger, Monrovia, Calif., gave the Address on Medicine, his subject being, "Some of the More Important Advances in the Diagnosis and Treatment of Tuberculosis."

Upon motion, unanimously carried, a rising vote of thanks was extended to Dr. Pottenger for his address.

At request of the President, Dr. Donald Macrae, Council Bluffs, briefly outlined the work in connection with organization and service of the Medical Reserve Corps of the U. S. Army.

The President introduced the following resolution:

BE IT RESOLVED, That the Iowa State Medical Society wishes to express its appreciation of the patriotism and self-sacrifice of those of its members who give their time to the support of the government in the present crisis by serving in the United States Army. We recommend that one-third of the fees collected by members of the Society on account of work which would otherwise have gone to the members in the army be paid to the member or to his family.

Upon motion, duly made and seconded, the above resolution was adopted by unanimous vote.

Dr. Geo. E. Decker, Davenport, read a paper on "Treatment of Tuberculous Cervical Adenitis." Discussed by Drs. J. W. Harrison, Guthrie Center; C. B. Taylor, What Cheer; Daniel Glomset, Des Moines; F. M. Pottenger, Monrovia, Calif., and Frank H. Lamb, Davenport; Dr. Decker closing the discussion.

Thursday Evening, May 10

Meeting was called to order by the President at 7:30 o'clock. Calling Vice-President C. B. Taylor to preside, Dr. Herrick read his presidential address.

As a committee to report on the President's Address at the general session Friday, the chair appointed Drs. M. N. Voldeng, Walter L. Bierring and A. G. Hejinian.

The President introduced the essayist of the evening, Dr. George E. Shambaugh, Chicago, who gave an address on "Disease of the Internal Ear in Its Relation to General Medicine."

Upon motion by Dr. Thos. F. Duhigg, a rising vote of thanks was unanimously extended to Dr. Shambaugh for his splendid address.

Friday Morning, May 11

The meeting was called to order by Vice-President Taylor at 9 o'clock.

Papers, comprising a symposium on obstetrics, were read as follows:

"Pathology of Pregnancy," Dr. Paul Reed, Iowa City.

"Indication and Use of Drugs in Obstetrics," Dr. Harry W. Vinson, Ottumwa.

"Management of Premature Labor and Obstetric Surgery Outside of Hospitals," Dr. Charles N. Stevenson, Milton.

"Obstetric Accidents as a Cause of Gynecological Conditions," Dr. Wm. C. Kasten, Fort Madison.

"Summary of Symposium," Dr. Frank M. Fuller, Keokuk.

The above papers were discussed by Drs. Laura H. Branson, Iowa City and C. C. Heady, Bloomfield.

President Herrick: "I wish at this time to thank the officers of the Iowa State Medical Society—the Secretary, Dr. Throckmorton, the Treasurer, Dr. Duhigg, and the Acting-Treasurer during part of the year, Dr. Osborn—for their most efficient service in carrying on the work of the Society and in assisting me during the past year. I certainly will never forget the hearty co-operation which I have received at their hands. I also wish to acknowledge the effective aid given by the chairmen of the sections, Dr. Rowan of Iowa City, Dr. Fuller of Keokuk, and Dr. Pearson of Des Moines, in getting up the program. We never could have had such an excellent program without their co-operation, and the success of this meeting is to a great extent the result of their efforts. I further wish to thank the local committee of arrangements. Their work could not have been done better, and I am very grateful to them for their efforts.

"We have had as our guests Dr. Pottenger of California, Dr. Shambaugh of Chicago, and Dr. Judd of Rochester. I feel that this Society has been honored

by their presence and that we have been greatly benefitted by their visit.

"During the past year I have been gratified at the spirit of the profession in the state, and I feel that with the spirit that is manifest and with the efforts that are being made on the part of individual members, nothing can prevent the profession of Iowa from continuing in the high position it has always occupied.

"I would like to say something further in the way of appreciation, but our time here is too valuable. So for once and for all I will say that I am most profoundly grateful for the honors that have been conferred upon me and for the hearty co-operation which I have received. Seemingly everybody's thought was to help to lighten the work and to make the meeting a success. I certainly appreciate it and shall carry the memory of it to the last days of my life. When the shadows are beginning to gather about me I know that my memory will revert to this occasion and to the past two years as the bright spot that will never fade.

"I will appoint Dr. Small and Dr. Voldeng a committee to escort the President-Elect to the platform."

The Retiring President: "Ladies and Gentlemen, Members of the Iowa State Medical Society: I do not need to introduce to you Dr. J. N. Warren, the President-elect, who now assumes the office of President of this Society. And I know that he will receive your co-operation as he will receive mine, and I bespeak for him, with your co-operation, the most successful year the Society has ever had."

President Warren: "Members of the Society: I can scarcely find words to express my thanks for this advancement among you. I keenly feel the great responsibility which will be placed upon my shoulders for the succeeding year, but know that I shall receive your co-operation and support."

Dr. E. Starr Judd, Rochester, Minn., gave the Address on Surgery, his subject being, "The Surgery of the Thyroid."

It was moved by Dr. Paul E. Gardner that a vote of thanks be extended to Dr. Judd for presentation of this excellent address. At the President's suggestion that unanimous consent to the motion be evidenced, a rising vote of thanks was extended to Dr. Judd.

Dr. J. W. Kime, Fort Dodge, in behalf of the Webster County Medical Society, presented the following resolution:

"BE IT RESOLVED by the Iowa State Medical Society, that in all cases where the sanity of any individual is the issue, the county insane commission as now constituted shall determine the question of sanity or insanity of the individual, and that appeal, if taken, shall be to a state commission of Alienists composed of superintendents of the state hospitals who shall be named as such commission by the governor, and that the decision of such commission shall be final as to the sanity or insanity of such individual; and

"BE IT RESOLVED, That the President of the Iowa State Medical Society shall appoint a committee of three to confer with a like committee of the State Bar Association to formulate a bill covering the provisions of this resolution for presentation at the next session of the general assembly of the State of Iowa."

Dr. Kime: "In behalf of the Webster County Medical Society I offer this resolution and move its adoption." Motion seconded. Carried.

It was moved by Dr. W. B. Small that the secretary be instructed to send a telegram of greetings to Dr. Edward Hornibrook, Cherokee; Dr. C. F. Wahrer, Fort Madison and Dr. A. O. Williams, Ottumwa. Motion seconded and carried. It was so ordered.

Dr. M. N. Voldeng presented report of the committee appointed to consider and report upon the President's Address, as follows:

"In submitting a report on the President's Address, the committee feels that the Society is to be congratulated on its general excellence and the able manner in which it reflects some of the most vital medical issues of the day.

"The importance that is given to the greater need for comprehensive study of disease conditions and methods of examinations in order to develop the highest diagnostic judgment, is particularly to be recommended.

"As the hospital is regarded as the criterion of the standing of the profession of the community, the recommendation for improved laboratory facilities and the keeping of careful records and case histories is especially endorsed.

"In regard to the two special recommendations contained in the address, the committee submits the following recommendations:

"Firstly: That a committee be appointed to report at the next annual meeting of the Society on the advisability of a change in the time of delivery of the President's Address.

"Secondly: The importance of having a card index record of all authors and titles of papers presented before the State Society is recognized, and the committee expresses its highest endorsement for this valuable suggestion and recommends that the proper steps be taken to have this carried out.

"It is moved that the address be adopted by the Society, and be submitted for publication in the Journal of the Iowa State Medical Society.

M. N. Voldeng,
Walter L. Bierring,
A. G. Hejinian,
Committee."

The President directed that the report be given to the Secretary.

The Secretary presented report from the House of Delegates, as follows:

SUMMARY OF THE PROCEEDINGS OF THE HOUSE OF DELEGATES

The first session was held Wednesday, May 9, at 4:15 P. M. Roll call showed the presence of forty-

nine members. The reports of the secretary, treasurer and various committees were presented.

The house convened at 8:15 A. M. on Thursday there being fifty members present. The reports of committees and unfinished business largely consumed the time.

On Friday the final session was held at 8:10 A. M., forty-five members were in attendance. The first order of business was the election of officers for the ensuing year (for list, see transactions of the House of Delegates for Friday, May 11). Fort Dodge was selected for the 1918 meeting place, and the time, second Wednesday in May. Number of physicians registering 681; guests and ladies 39; total registration 720.

It was moved by Dr. Frank M. Fuller that the report of the secretary be adopted. Motion seconded. Carried.

Adjourned.

Tom B. Throckmorton,
Secretary.

Transactions of the House of Delegates Iowa State Medical Society

Sixty-sixth Annual Session, Des Moines, Iowa, May 9, 10, 11, 1917

First Meeting—Wednesday Afternoon, May 9

The House of Delegates held its first meeting in the parlor of the Chamberlain, and was called to order at 4:15 by the president, Dr. J. F. Herrick.

Roll call showed the presence of forty-nine members.

Credential of delegate from Montgomery county was rejected on account of non-payment of dues. Delegate's explanation of election and statement that his dues had been paid, although not reported by the county secretary, was on motion, duly seconded, accepted.

Credential of one delegate from Polk county was rejected on account of non-payment of dues. On report of the Polk county secretary that the rejected delegate's dues had been paid, but not forwarded to the state secretary, a motion was made that the delegate be seated. Seconded and carried.

The roll call showed the following counties to have delegates present without proper credentials: Benton, Buena Vista, Jackson, Tama and Van Buren.

The chair instructed the members of the Council to retire and act on the credentials filed by the delegates from these counties.

The secretary, Dr. Tom B. Throckmorton, read his annual report. It was moved that the report be accepted.

Seconded and carried. Report was referred to the Finance Committee.

REPORT OF SECRETARY

The by-laws decree that the secretary make an annual report, and I herewith submit the following for your kind consideration:

The membership during the past four years has slowly but steadily increased. In 1913 there was a total of 2,019 members; in 1914, 2,061 members; in 1915, 2,133 members, and the past year 2,200 members. From all indications the coming year bids fair to exceed the past one. To date the membership is 2,071.

The last census of the physicians in Iowa, taken in 1915, showed a total of 3,750 who were entitled to practice the healing art. Allowing for a natural influx of new material during the past year, it is not unreasonable to assume that perhaps more than 1,600 physicians are now residing in the state who are not identified with our organization. Allowing for the large number of physicians who are sectarian in practice, and hence debarred from the privileges of the Iowa State Medical Society, there is still a sufficient number remaining outside the domain of organized medicine to warrant the putting forth of every effort to align every eligible physician with this Society.

Believing this to be a part of my duty, I wrote to the secretaries of the various county societies and urged them to put forth every effort to keep the old membership up to standard and to secure as many new members as possible. As a result of their efforts, 171 new and reinstated members have been added to our membership so far this year.

On account of non-payment of dues, there are now about 275 members in suspension. Whether this is due to procrastination on the part of individuals to promptly send in their annual dues, or to thoughtlessness or clerical inactivity on the part of some of the county secretaries to promptly forward payments, I am unable to state. So far this year, one county has failed to report and only meager reports have been received from several. I would urge that this body give emphasis to every means possible whereby the members of the various component county medical societies are brought to a realization that a prompt payment of dues within the time specified by the by-laws, will not only lessen the work connected with the secretary's office but will eradicate any possible question as to whether any member is entitled to medico-legal protection. That members in suspension, realizing the approach of impending danger by a threatened malpractice suit, have fairly clamored for reinstatement in the Society, is common knowledge to the secretary's office as well as to the medico-legal committee.

It also gives me pleasure to report that the society now owns an office equipment to the value of $340.20. Not all of this, however, has been purchased during my incumbency. To the credit of the Society may it be said, the foresightedness of my esteemed predecessor, Dr. J. W. Osborn, prompted him to purchase a fireproof safe that the records and more valuable papers of the Society might be kept

with safety. For the safe alone, a sum of $157.20 was spent. The balance of $183.04 represents the amount spent by myself for office furniture and fixtures as per the authorization of the board of trustees.

Moneys received and turned over to the treasurer during the year May 1, 1916 to April 30, 1917 were as follows:

Receipts

Dues, 1915	$ 12.00	
Dues, 1916	905.00	
Dues, 1917	10,138.00	
Advertising	4,401.95	
Reprints	526.23	
Subscriptions	39.50	
Sales	19.94	$16,042.62

Disbursements

Cash Discount and Commission to Advertising Bureau	$ 512.87	
Exchange	.80	
Thos. F. Duhigg, Treasurer	15,528.95	$16,042.62

The following orders have been issued during the year:

No.		
672	Connor & Lally, attys., Denison, medico-legal	$ 265.00
673	Dutcher & Davis, Iowa City, medico-legal, Oct., Nov. and Dec., 1915	962.07
674	Dutcher & Davis, Iowa City, medico-legal, Jan., Feb. and March, 1916	1,021.70
675	Helsell & Helsell, attys., Fort Dodge	100.00
676	Senniff, Bliss & Witmer, attys., medico-legal services	380.00
677	J. H. Welch Prtg. Co., April Jour., reprints and programs 1916 session	422.40
678	F. J. Ainsworth Co., 1916 badges	19.00
679	Register & Leader Co., cuts for Journal	16.25
680	J. W. Osborn, com. on advertising Jan. 1 to April 30, 1916	181.92
681	J. W. Osborn, salary six months and office expenses	463.35
682	J. N. Warren, trustee, expense attending meeting	12.00
683	D. H. Bowen, trustee, expense attending meetings Sept. 24 and Dec. 7, 1915	18.00
684	Thos. F. Duhigg, treas., salary and office expense	164.76
685	W. B. Small, expense president's office, 1915-1916	44.32
686	John R. Walker, councilor 1st dist., expenses	6.00
687	Geo. E. Crawford, councilor 5th dist., expenses	3.30
688	J. F. Aldrich, councilor 8th dist., expenses	11.50
689	Jeannette F. Throckmorton, com. health and public instr., expenses	21.94
690	Henry Albert, sec'y council, expenses	4.78
691	Swazey & Co., Davenport, reporting House of Delegates, 1916 session	15.00
692	Marie Zwicker, Davenport, registration bureau, 1916 session	6.00
693	Anne Rahne, Davenport, registration bureau, 1916 session	6.00
694	H. H. Ohde, Davenport, assistant to president, 1916 session	6.00
695	J. H. Welch Prtg. Co., May Journal and reprints	290.55
696	Fred S. Young Co., Des Moines, bonds secretary and treasurer	50.00
697	Register & Leader Co., cuts for Jour	6.57
698	D. S. Fairchild, salary April, May and June, 1916	375.00
699	J. H. Welch Prtg. Co., June Journals and reprints	327.35
700	Register & Tribune Co., cuts for August Journal	28.40
701	J. H. Welch Prtg. Co., July Journal and reprints	373.65
702	J. H. Welch Prtg. Co., reprints	10.00
703	American Medical Association, 1916 membership cards	2.00
704	Des Moines Duplicating Co., 270 letters	3.60
705	Bankers Cabinet & Supply Co., stationery, secretary's office	18.65
706	Economy Advertising Co., Iowa City, stationery for council	21.54
707	D. S. Fairchild, medico-legal, postage	2.22
708	Iowa Prtg. Co., Clinton, printing	7.20
709	Brad Mahana, Des Moines, lettering office door	2.40
710	Iowa Press Clipping Bureau, service May 18 to August 18, 1916	10.50
711	McNamara & Kenworthy, Des Moines, office furniture, secretary	44.65
712	Paul E. Gardner, councilor 4th dist., expenses	7.50
713	Dr. John P. Sprague, Grinnell, refund 1916 dues	5.00
714	J. Mandelbaum & Son, Des Moines, furnishings, secretary's office	5.80
715	Younker Bros., Des Moines, furnishings secretary's office	11.54
716	Merchants Transfer Co., moving secretary's office	3.25
717	S. Davidson & Bros., office furniture	6.20
718	J. W. Osborn, commission on adv. and office expenses May 15 to July 1, 1916	84.35
719	Tom B. Throckmorton, salary May 15 to August 15, $162.50; com. on adv., $50.38; government envelopes for office, $79.18	292.06
720	Thos. F. Duhigg, expense legislative committee, postage	12.00
721	Lewis Schooler, stationery and postage medico-legal com. 1914 and 1915	40.00
722	Chase, Seaman & Sutton, attys., Clinton, medico-legal services Oct., 1913 to Sept., 1916	169.57

723 Dutcher & Davis, Iowa City, medico-legal services April 14, 1916 to June 28, 1916 ..... 133.09
724 Wm. R. McClure, atty., Sumner, Ia., medico-legal services Dec., 1911 to Jan., 1916 ..... 50.00
725 Chas. F. Shull, Des Moines, labor on Journal filing cases in moving secretary's office 6.50
726 J. W. Cokenower, chrm. trustees, record book for trustees 6.50
727 D. H. Bowen, trustee, expenses attending trustees' meeting August 28, 1916 ..... 30.00
728 Miss Adelaide Folsom, Ripon, Wis., reporting 1916 session 135.00
729 J. H. Welch Prtg. Co., August Journal and reprints 338.85
730 Register & Tribune Co., cuts October issue 2.25
731 J. H. Welch Prtg. Co., September Journal and reprints 294.60
732 Des Moines Duplicating Co., 350 letters 1.85
733 Bankers Cabinet & Supply Co., printing 1917 membership receipts 7.10
734 D. S. Fairchild, editor's salary July, August and September 375.00
735 D. S. Fairchild, stamps for July, August and September 2.06
736 Underwood Typewriter Co., cash payment on typewriter 80.88
737 Iowa Press Clipping Bureau, service August 18 to Oct. 18 ..... 7.00
738 J. H. Welch Prtg. Co., October Journal and reprints 290.85
739 Koch Bros., record book, register for 1917 ..... 2.40
740 American Medical Association, 1917 membership cards 7.00
741 Bankers Cabinet & Supply Co., reprint orders and return card on 4,250 envelopes (two forms) 8.55
742 Des Moines Duplicating Co., 125 letters to county secretaries 2.05
743 McNamara & Kenworthy, office furniture and supplies, secretary 13.45
744 Dutcher & Davis, attys., medico-legal services, July, Aug. and Sept 512.87
745 D. H. Bowen, expense attending trustees' meeting Nov. 21, 1916 ..... 20.00
746 Tom B. Throckmorton, salary Aug. 15 to Nov. 15, $162.50; com. on adv., $137.58; office expense; government envelopes; mailing Journal, $119.41 ..... 419.49
747 C. A. Boice, Washington, Iowa, commission on adv. for 1914 ..... 173.14
748 J. H. Welch Prtg. Co., Nov. Journal and reprints 287.90
749 Iowa Press Clipping Bureau, October 18 to December 18 ..... 7.00
750 Register & Leader Co., cuts for Journal 26.99
751 J. H. Welch Prtg. Co., Dec. Journal and reprints 307.40
752 D. S. Fairchild, editor's salary, October, November and December and postage 375.92
753 Hasner & Hasner, attys., Fort Dodge, medico-legal services 50.00
754 Register & Leader Co., cuts for Journal 10.35
755 J. H. Welch Prtg. Co., prtg. January Journal and reprints and wrappers 406.25
756 Register & Leader Co., cuts for Journal 9.63
757 D. E. Moon Prtg. Co., envelopes for treasurer 3.85
758 J. H. Welch Prtg. Co., prtg. February Journal and reprints 397.30
759 McNamara & Kenworthy, Des Moines, office supplies, secretary 2.50
760 Banker's Cabinet & Supply Co., printing statements for Journal 3.60
761 Iowa Press Clipping Bureau, December 18 to February 18 ..... 7.00
762 Tom B. Throckmorton, salary Nov. 15 to Feb. 15, $162.50; com. on advertising, $129.45; mailing and government envelops, $72.30 ..... 364.25
763 This order canceled.
764 Dutcher & Davis, attys., medico-legal services, Oct., Nov. and Dec. 924.18
765 T. E. Powers, trustee, expenses attending meeting August and March 11.00
766 Thos. F. Duhigg, expenses legislative committee 180.01
767 J. B. Whitney, atty., Harlan, Iowa, medico-legal services 60.00
768 D. S. Fairchild, editor's salary, Jan., Feb. and March, 1917 ..... 375.00
769 Register & Leader Co., cuts for Journal 2.07
770 J. H. Welch Prtg. Co., prtg. March Journal 353.95
771 Register & Leader Co., cuts for April Journal 9.67
772 Dutcher & Davis, attys., medico-legal services, Jan., Feb. and March, 1917 ..... 612.17

JOURNAL STATEMENT

January 1 to December 31, 1916

Income

Advertising	$3,981.40	
Reprints	571.78	
Reprints outstanding	6.95	
Subscriptions, non-members	25.50	
Sales	18.09	
Subscriptions, 2,200 members	2,200.00	$6,803.72

Expense

Printing		
7-64 page Journals	$1,795.33	
2-72 page Journals	578.70	
3-80 page Journals	960.35	$3,334.38
Engravings	155.91	
Mailing and city delivery	121.50	
Wrappers and office supplies	46.43	
Stationery and postage	38.38	

News service	42.00	
Reprints	487.55	
Commission business manager	482.63	
Com. adv. bureau and cash disc.	472.06	
Editor's salary	1,500.00	$6,680.84
Profit		122.88
Total		$6,803.72

SUPPLEMENTAL REPORT OF PERSONAL EXPENSES OF THE SECRETARY

Income

Salary as secretary for the year	$650.00	
Com. on adv. for ten months	441.41	$1,091.41

Expenses

Stenographer and bookeeper ten and one-half months	$787.50	
Office rent ten months	170.00	$ 957.50
Balance		$ 133.91

It was not possible for me to assume the business management of the Journal before July 1, 1916, therefore I received commission for ten months only, but had I received commission for the other two months' advertising and carried the expense for the two months, I would have received for my year's service the net amount of $51.21.

Respectfully submitted,
Tom B. Throckmorton, Sec'y.

It was moved that a vote of appreciation be extended the secretary for his efforts and work during the year as evidenced by his report. Seconded and carried.

The treasurer, Dr. Thomas F. Duhigg, read his annual report. It was moved that the report be accepted. Seconded and carried. Report was referred to the Finance Committee.

REPORT OF TREASURER

The annual report of the treasurer attached herewith speaks for itself, but I wish to invite your attention to a few points which will aid you in seeing clearly the great improvement in the finances of the Society during the past year.

In 1915 the balance on hand received from my predecessor was $2,545.20. My report last year showed on hand $8,997.51. I explained at that time that there were bills due and unpaid amounting to nearly $4,000. To be exact, as can be seen by glancing at the disbursements during the week following the convention last year, the amount of $3,826.44 was used to pay old bills. With bills paid to May 1, 1916, last year, there would have been remaining on hand a little more than $5,000, which was twice what the 1915 report showed.

This year the amount on hand with bills paid to May 1, 1917, is $10,817.06 which is more than twice what we had on hand last year if the bills had been paid to May 1, 1916. This puts the Society in a safe position financially. The interest on time deposits this year amounted to $166.23. Next year it shall be twice that amount.

I believe that with the growing responsibilities of the Society in defense work, which has increased steadily since the enactment of workmen's compensation legislation, the dues should be maintained where they are without increase or reduction. The affairs of the Society should be managed with the usual degree of economy until a fund of at least $25,000 is accumulated—a fund that is none too large to have on hand by any institution which provides for the defense against malpractice suits, of as large a number as the membership of this Society includes.

Statement of receipts and disbursements of the treasurer of the Iowa State Medical Society, April 30, 1916 to May 1, 1917.

Receipts

Balance on hand May 1, 1916		$ 8,997.51
Membership dues		11,055.00
Journal receipts:		
Advertising	$3,889.08	
Reprints, subscriptions and sales	584.87	4,473.95
Advertising receipts from Dr. C. A. Boice, former business manager		185.34
Arrangement Committee Davenport session		10.34
Interest on time deposit June 1, 1916		73.33
Interest on time deposit December 1, 1916		92.90 $24,888.37

Disbursements

Expended as per orders herewith attached	$14,071.31	
Balance on hand, time deposit	10,000.00	
Balance on hand, subject to check	817.06	$24,888.37

Respectfully submitted,
Thos. F. Duhigg, Treasurer.

Check No.	1916		
53	5-13	Dr. J. W. Osborn, com. on adv.	$ 181.92
54	5-13	Dr. J. W. Osborn, salary one-half year and expenses	463.35
55	5-13	Connor & Lally, legal services	265.00
56	5-13	Dutcher & Davis, legal services Oct., Nov. and Dec., 1915	962.07
57	5-13	Dutcher & Davis, legal services Jan., Feb. and March, 1916	1,021.70
58	5-13	Helsell & Helsell, legal services	100.00
59	5-13	Senneff, Bliss & Witmer, legal services	380.00
60	5-13	Welch Prtg. Co., April Journals, reprints and programs	422.40

61	5-13	Ainsworth Co., badges, 1916 meeting	19.00
62	5-13	Register & Leader, cuts for Journal	16.25
63	5-13	J. W. Warren, expense trustees meeting Sept. 24, 1915	12.00
64	5-13	Dr. Bowen, expense trustees meeting Dec. 7, 1915	18.00
65	5-15	John R. Walker, coun. expense 1st. dist.	6.00
66	5-15	Thos. F. Duhigg, salary and expenses	164.76
67	5-15	Geo. E. Crawford, coun. exp.	3.30
68	5-15	Swazey & Co., reporting House of Delegates 1916	15.00
69	5-15	J. F. Aldrich, coun. expense 8th dist.	11.50
70	5-15	Jeannette F. Throckmorton, health and public instruction expense	21.94
71	5-15	Henry Albert, expense as secretary of council	4.78
72	5-15	W. B. Small, expense while president	44.32
73	5-20	Miss Anne Rahne, registration bureau, Davenport	6.00
74	5-20	Miss Marie Zwicker, registration bureau, Davenport	6.00
75	6-17	Welch Prtg. Co., Journals and reprints	290.55
76	6-17	H. H. Ohde, assisting pres. at Davenport meeting	6.00
77	7- 5	Fred S. Young, bonds for secretary and treasurer	50.00
78	7-10	Register & Tribune, cuts for Journal	6.57
79	7-14	Welch Prtg. Co., June Journals and reprints	327.35
80	7-14	Dr. D. S. Fairchild, salary April, May and June	375.00
81	8-10	Register & Tribune, half tones	28.40
82	8-17	Welch Prtg. Co., July Journals and reprints	373.65
83	9- 1	Welch Prtg. Co., reprints, President W. B. Small	10.00
84	9- 1	American Medical Association, pocket membership cards	2.00
85	9- 1	Des Moines Duplicating Co., letters to delinquent members	3.60
86	9- 1	Bankers Cabinet & Supply, envelopes secretary's office	18.65
87	9- 1	Economy Advertising Co., stationery for council	21.54
88	9- 1	Iowa Printing Co., stationery for Dr. Fairchild	7.20
89	9- 1	Dr. D. S. Fairchild, stamps medico-legal committee	2.22
90	9- 1	Brad Mahana, lettering for Iowa State Medical Society	2.40
91	9- 1	Iowa Press Clipping Bureau, clippings May 18 to August 18, 1916	10.50
92	9- 1	McNamara Kenworthy Co., office furniture and supplies, secretary	44.65
93	9- 1	Paul E. Gardner, councilor expense to May, 1916	7.50
94	9- 1	John P. Sprague, M.D., dues refunded, not licensed	5.00
95	9- 1	Mandelbaum & Sons, curtain material, secretary's office	5.00
96	9- 1	Younker Bros., office rug and curtain fixtures, secretary	11.54
97	9- 1	Merchants Transfer Co., office supplies moved from 506 C. N. B. Bldg. to 407 Equitable	3.25
98	9- 1	S. Davidson Bros., office furniture	6.20
99	9- 1	J. W. Osborn, office supplies, adv. com.	84.35
100	9- 1	Tom B. Throckmorton, supplies, salary and adv. com.	292.06
101	9- 1	Thos. F. Duhigg, postage and stenographic work	12.00
102	9- 1	Lewis Schooler, medico-legal expense	40.00
103	9- 1	Chase Seaman & Sutton, Clinton medico-legal services	169.57
104	9- 1	Dutcher & Davis, medico-legal services	133.09
105	9- 1	Wm. R. McClure, medico-legal services	50.00
106	9- 1	Chas. F. Shull, carpenter's work secretary's office	6.50
107	9- 1	Dr. J. W. Cokenower, trustees' record book	6.50
108	9-19	Dr. D. H. Bowen, expense trustees meeting Aug. 28	30.00
109	9-27	Adelaide Folsom, reporting 1916 session, Davenport	135.00
110	10-16	Welch Prtg. Co., Aug. Journals and reprints	338.85
111	10-16	Register & Tribune, half tones October 16	2.25
112	10-17	Welch Prtg. Co., Sept. Jour. and reprints	294.60
113	11- 2	Des Moines Duplicating Co., 350 letters	1.85
114	11- 2	Bankers Cabinet & Supply, receipts 1917	7.10
115	11- 2	D. S. Fairchild, salary July, Aug., Sept., stamps	377.06
116	11- 2	Underwood Typewriter, typewriter secretary's office	80.88
117	11- 2	Iowa Press Clipping Bureau, clippings Aug. 18 to Oct. 18	7.00
118	11-18	Welch Prtg. Co., Oct. Jour. and reprints	290.85
119	12-13	Dr. C. A. Boice, com. on adv. 1914 col.	173.14
120	12-13	Koch Bros., record book	2.40
121	12-13	Bankers Cabinet & Supply, 150 reprints	8.55

122	12-13	American Medical Ass'n, 2000 membership cards	7.00
123	12-13	Des Moines Duplicating Co., 125 letters to county secretaries	2.05
124	12-13	McNamara-Kenworthy Co., office supplies, secretary	13.45
125	12-13	Dutcher & Davis, medico-legal fee, July, Aug. and Sept.	512.87
126	12-13	Dr. D. H. Bowen, expenses trustees' meeting November 21	20.00
127	12-13	Dr. T. B. Throckmorton, salary com. on adv., office expense	419.49
	1917		
128	1- 4	Welch Prtg. Co., Nov. Journals and reprints	287.90
129	1- 4	Iowa Press Clipping Bureau, clippings Oct. 18 to Dec. 18	7.00
130	1- 4	Register & Tribune, cuts Dec. and Jan. Journals	26.99
131	1-15	Welch Prtg. Co., Dec. Journals and reprints	307.40
132	1-15	D. S. Fairchild, salary and postage	375.92
133	1-15	Hasner & Hasner, medico-legal services	50.00
134	1-19	Mandelbaum & Sons, bal. of bill (see check 95)	.80
135	2-14	Welch Prtg. Co., Jan. Journals and reprints	406.25
136	2-14	Register & Tribune, cuts and advertising	9.27
137	2-14	Register & Tribune, cuts	1.08
138		(Void)	
139	3-13	Register & Tribune, cuts	9.63
140	3-19	Dutcher & Davis, medico-legal services Oct., Nov. and Dec.	924.18
141	3-19	Dr. T. E. Powers, expense Aug. and March meetings, trustees	11.00
142	3-19	Dr. Throckmorton, salary, office expense	364.25
143	3-19	Iowa Press Clipping Bureau, clippings Dec. 18 to Feb. 18	7.00
144	3-19	Bankers Cabinet & Supply, statement blanks	3.60
145	3-19	McNamara-Kenworthy Co., office supplies	2.50
146	3-19	Welch Prtg. Co., Feb. Journal and reprints	397.30
147	3-19	Moon Prtg. Co., printing 500 envelopes	3.85
148		(Void)	
149		(Void)	
150	3-28	J. B. Whitney, medico-legal services	60.00
151	3-29	T. F. Duhigg, expense legislative committee	180.01
152	4- 9	Register & Tribune, half tone, April issue	2.07
153	4- 9	D. S. Fairchild, salary, Jan., Feb., March	375.00
154		(Void)	
155	4-30	Dutcher & Davis, Jan., Feb., and March medico-legal bill	612.17
156	4-30	Welch Prtg. Co., March Journal and reprints	353.95
157	4-30	Register & Tribune, cuts	9.67
		Total	$14,071.31

PEOPLE'S SAVINGS BANK

Des Moines, Iowa, May 7, 1917.

This will certify that there are funds on deposit in this bank to the credit of the Iowa State Medical Society as follows:

On checking account	$ 817.06
On savings account	10,000.00
Interest on above to June 1, 1917, will amount to	133.60

Very truly yours,
E. A. Slininger,
Cashier.

Dr. Henry Albert, secretary of the Council, read the report of the Council for the year, which on motion, duly seconded, was accepted.

REPORT OF COUNCIL

First District

The seven counties of the district report 157 members with 221 eligible. During the year eighteen have dropped membership and twelve have been admitted. The total average attendance at meetings of the seven counties was seventy-seven. Two of the counties report good interest; two, fair and three, poor. Dr. John R. Walker, the councilor for this district reports that the interest during the past year was better than it was the year previous. He also makes the following valuable suggestion: "More effort should be made to induce non-members, who are eligible, to attend the state meetings, for I am of the opinion that an attendance on one or two state meetings would stimulate enrollment in our county societies."

Second District

The six counties of the district report 147 members with 191 eligible. During the year seventeen have dropped membership and thirty-two have been admitted. The total average attendance at meetings of the six counties was sixty-three. Two of the counties report good interest; two, fair and two, poor. Dr. F. J. Swift of the Maquoketa County Medical Society states that: "Owing to Maquoketa being located in the extreme southwest part of the county it is hard to get the members from out of the city to attend." It is highly desirable that members should feel it a duty to attend and take an interest in the meetings of the county societies since it is the unit upon which the superstructure of the state and national organizations are built.

Third District

Seven of the nine counties of the district report 211 members with five counties reporting 108 eligible

and two counties failing to make a report in regard to such. During the year six have dropped membership and twenty have been admitted. The total average attendance at meetings of the seven counties was seventy-five. Six of the counties report fair interest, and one reports poor.

Dr. W. A. Rohlf, the councilor for this district, states that: "The Waterloo Medical Society have held bi-monthly meetings of especial interest and the physicians from nearby counties have largely attended. This has interfered with county programs to some extent but the general medical enthusiasm, I am sure, is at par in the district with perhaps the exception of one county."

Fourth District

The ten counties of the district report 167 members with 231 eligible. During the year eight have dropped membership and nineteen have been admitted. Death claimed one member during the year. The total average attendance at meetings of the nine counties was ninety. Three of the counties report good interest; four, fair and three, poor.

Dr. Paul Gardner of New Hampton, councilor for the district reports that the interest in general has improved.

Fifth District

The seven counties report 187 members with 271 eligible. During the year twenty have dropped membership and fifteen have been admitted. Death claimed one member during the year. The total average attendance at meetings of the seven counties was 144. One of the counties reports good interest; two, fair; three, poor.

Dr. G. E. Crawford, of Cedar Rapids, the councilor for this district, makes the following comment: "The condition in the fifth district is about the same as it has been for the past two or three years. Quite an active interest in Linn and Marshall counties; not much activity in the other counties."

Sixth District

Six of the seven counties of the district report 140 members with 187 eligible. During the year six have dropped membership and twenty-seven have been admitted. Death claimed one member during the year, namely, Dr. Chas. Kratzer. The total average attendance at meetings of the five counties was seventy-eight. Dr. S. A. Spilman, of Ottumwa, councilor for this district, reports good interest in each of the six counties of his district from which he has heard.

Seventh District

The six counties report 264 members with 378 eligible. During the year seventeen have dropped membership and eleven have been admitted. Death claimed five members during the year, namely, Drs. Jessie V. Smith, J. G. Weinland, W. E. Vest, Thomas F. Kelleher and F. J. Will.

Dr. Channing G. Smith, of Granger, councilor for this district, makes the following comments and valuable suggestions: "Of the six counties in this district three have remarkably good societies. The three remaining report general interest as rather apathetic, moderate and slight. In two of these the number of doctors eligible to membership is comparatively small, yet the actual number of members is proportionately high. It would seem that the great majority of physicians desire to belong and be a part of the county society but on account of insularity, bad roads and length of time used (in one county the physicians of two towns to attend must take at least fourteen hours in getting to and from the county seat unless autos can be used) that their actual personal part has become practically nil.

"I would suggest that the county secretaries be requested to notify the councilor of the district of proposed meetings. I have been to four of the counties and not to the other two, because I did not know when or where they met."

Eighth District

Ten of the eleven counties of the district, report 141 members with 236 eligible. During the year ten have dropped membership and thirty-two have been admitted. Death claimed one member during the year, Dr. T. G. Stephens. The total average of the meetings of the nine counties was eighty-three. Three of the counties report good interest; four, fair and two, poor, and one does not report in regard to interest shown. Dr. J. F. Aldrich, of Shenandoah, the councilor for this district, reports that interest in the societies is about the same as it was the preceding year.

Ninth District

Six of the nine counties of the district report 136 members with 159 eligible. During the year eight have dropped membership and fourteen have been admitted. Death claimed two members during the year, namely, Drs. T. B. Morris, of Atlantic and E. L. Cook, of Harlan. The total average attendance at meetings of the six counties was sixty-five. Four of the counties report good interest; one, fair and one, poor. Dr. A. L. Brooks, of Audubon, the councilor for this district reports that interest in county society work has markedly improved during the past year.

Tenth District

Eight of the thirteen counties of the district report 142 members with 187 eligible. During the year seven have dropped membership, and seven have been admitted. Death claimed one member during the year. The total average attendance at meetings of the seven counties was seventy. Three of the counties report good interest; two, fair and three, poor. Dr. W. W. Beam, of Rolfe, the councilor for the district, reports that interest in county society work in general is improved, although he was not able to get reports from several of the societies.

Eleventh District

Twelve of the thirteen counties of the district report 204 members with 335 eligible. During the year twenty-one have been dropped and twenty-one

have been admitted. The total average attendance at meetings of the twelve counties was ninety. Three counties report good interest; four, fair; two, poor and two do not report the interest shown.

Dr. G. C. Moorehead, of Ida Grove, the councilor for this district, reports that "practically all of the county societies have had under discussion the question of adjusting fees to the increased cost of living. Some towns are feeling the new experiences of having their offices taxed. This tax varies from $15 to $60 and is an extra burden on the profession."

Respectfully submitted,
Henry Albert,
Secretary of the Council.

The Council, then made its report on the credentials of delegates from the following counties: Benton, Buena Vista, Jackson, Tama, Van Buren and Woodbury. It was moved that the report be accepted. Seconded and carried. The total number of delegates then seated was fifty-five.

It was moved that a committee of three be appointed by the chair to consider the advisability of increasing the secretary's salary. Seconded and carried. The president appointed the following as said committee: V. L. Treynor, L. W. Littig and B. D. LaForce.

The report of the Board of Trustees was next presented by the chairman, Dr. J. W. Cokenower. It was moved that the report be accepted. Seconded and carried.

REPORT OF THE BOARD OF TRUSTEES

The Board of Trustees beg leave to report that they have held four meetings during the year 1916-1917 as required by the by-laws of the Society, and submit the following report:

Income from the Journal for the year 1916-1917, as follows: Advertising, reprints, subscriptions from non-members and sales, $4,474.75; subscriptions from members, $2,200, totaling $6,674.75.

Income from the Journal for the year 1915-1916, as follows: Advertising, reprints, subscriptions from non-members and sales, $3,969.76; subscriptions from members, $2,100, totaling $6,069.76.

Expense of printing Journal, reprints and illustrations for the year 1916-1917, $4,122.83; expense of printing Journal, reprints and illustrations for the year 1915-1916, $3,858.30.

The Journal income from all sources for the year May 1, 1915 to April 30, 1916, was $6,069.76; the Journal income from all sources for the year May 1, 1916 to April 30, 1917, was $6,674.75, showing a gain of $604.99, or nearly 10 per cent. The cost of printing the Journal, reprints and engravings for the year 1915-1916, amounted to $3,869.30; the corresponding cost for the year 1916-1917, amounts to $4,122.83, an increase of $254.53, or over six per cent. The increase in the contract price for printing the Journal for the calendar year 1917 over the contract price for 1916, is over 18 per cent.

These figures, however, do not coincide with the Journal statement submitted by the secretary as his statement covers the calendar year and not the fiscal year; and also includes every item of expenditure—items which are practically the same for every year. In the figures presented, I simply desire to show the increase in income and in the cost of printing our Journal.

It will be seen from these figures that the Iowa State Medical Society is in good financial working order, as the income from all sources for the past year was $1,457 above all expenses and yet there was a 20 per cent. increase in cost of printing the Journal which was more than made up by increased advertising, due to the excellent work of our secretary.

Respectfully submitted,
J. W. Cokenower,
Chairman.

The report of the Medico-Legal Committee was read by the chairman, Dr. D. S. Fairchild. Before completion of the reading of the entire report, it was moved that the further reading be dispensed with. Seconded and carried.

CONDENSED REPORT OF MEDICO-LEGAL COMMITTEE

Expenditures

Dutcher, Davis & Hambrecht, 1916-1917—	
First quarter, April to July, 1916	$ 133.09
Second quarter, July to October, 1916	512.87
Third quarter, Oct., 1916 to Jan., 1917	924.18
Fourth quarter, Jan., 1917 to April, 1917	612.17
	$2,182.31
Local attorneys, 1916-1917—	
Wm. E. McClure, (Niemeyer vs. Dr. R. H. Stafford case)	$ 50.00
J. B. Whitney, (Phillips vs. Moore case)	60.00
Hasner & Hasner, (Blad vs. Dr. F. E. Shimer case)	50.00
	$ 160.00
Dutcher, Davis & Hambrecht	$2,182.31
Local attorneys	160.00
Total for year 1916-1917	$2,342.31

CONDENSED REPORT OF CASES AGAINST MEMBERS OF THE IOWA STATE MEDICAL SOCIETY

To Dr. D. S. Fairchild, Dr. H. B. Jennings and Dr. Lewis Schooler, Medico-Legal Committee.

Gentlemen:

We have submitted a full report upon all cases pending at the date of our last report and also of cases commenced since that date.

The following is a summary of certain particulars in all cases commenced since the establishment of the Medical Defense Committee of the Association.

Cases commenced since organization of department	135
Cases commenced prior to the report of 1909	15
Cases commenced during 1909-1910	13
Cases commenced during 1910-1911	10
Cases commenced during 1911-1912	14
Cases commenced during 1912-1913	13
Cases commenced during 1913-1914	10
Cases commenced during 1914-1915	24
Cases commenced during 1915-1916	19
Cases commenced during 1916-1917	17
Cases pending at date of 1909 report	7
Cases pending at date of 1910 report	10
Cases pending at date of 1911 report	14
Cases pending at date of 1912 report	25
Cases pending at date of 1913 report	26
Cases pending at date of 1914 report	21
Cases pending at date of 1915 report	28
Cases pending at date of 1916 report	33
Cases now pending	33
Total cases disposed of	107

Nature of Cases

Malpractice in removing seed wart	1
Malpractice in not discovering and uniting severed ligaments of the wrist	1
Alleged assault	2
Removal of cancer of the hand	1
Conspiracy to have plaintiff declared insane	1
Fracture of arm	23
Fracture of leg or femur	36
Appendicitis—sponge case	1
Operation for kidney—sponge case	1
Appendicitis—malpractice in operation	3
Appendicitis—exploratory opening	1
Child birth, alleged failure to attend after alleged agreement to do so; child died (separate action by father and mother)	2
Hand crushed, alleged improper treatment	1
Hand lacerated, alleged improper treatment	1
Ear, alleged improper treatment	1
Eye, alleged improper treatment	1
Infection, childbirth	2
Medical treatment of child	1
Abortion, improper after-treatment	3
Abortion, without justification	2
Improper treatment of nail puncture in foot	1
Alleged removal of wrong kidney	1
Stomach trouble, alleged improper treatment and failure to treat	1
Anesthetic, death under	1
Improper diagnosis of diphtheria	1
Improper diagnosis of broken ribs	1
Removal of uterus, alleged negligent incision of the bladder	1
X-ray burn	2
Infection following amputation	1
Alleged improper treatment of scald	1
Removal of adenoids	2
Alleged improper abdominal incision	2
Failure to administer serum, patient died of lock jaw	1
Fracture of collar bone	1
Willful insertion of instrument, producing abortion	1
Operation for pregnancy of fallopian tube	1
Negligent administration of poison, causing death	1
Improper treatment of wound in leg from kick of horse	1
Alleged negligence in communicating erysipelas to woman in childbirth	1
Negligence in suffering patient mentally delinquent to jump out of unguarded window in private sanitorium	1
Negligent amputation of finger	3
Negligence in attending cut severing cords of hand	1
Wrongfully administering morphin	1
Communicating small-pox to patient in hospital	1
Fracture of lower jaw	1
Dislocation of knee	1
Cancer of stomach	1
Draining pelvic abscess	1
Operation for tonsils without consent	2
Negligence in removing button from child's throat	1
Hot water bottle burn	1
Failure to discover fractured vertabrae	1
Improper treatment of vaginal infection	1
Improper treatment of inflammatory rheumatism	1
Negligent removal of tonsils	1
Negligent treatment of gun shot wound	1
Negligent treatment of abscess of bladder	1
Negligent treatment of abscess under arm	1
Total amount of damages claimed in all cases to date	$1,368,948.00
Judgments recovered against members	3
Aggregate amount of judgments	4,775.00
Consultation on cases threatened in which no proceedings were had	67

Dutcher, Davis and Hambrecht, Attys.

Iowa City, Iowa, May 1, 1917.

A motion was made that the House of Delegates extend a vote of appreciation to the Committee on Medico-legal matters for the splendid work done during the past year. Seconded, and unanimously carried.

Report of the Committee on Health and Public Instruction was read by Dr. Paul E. Gardner. On motion, duly seconded and carried, the report was accepted.

REPORT OF COMMITTEE ON HEALTH AND PUBLIC INSTRUCTION

Members of this committee have held several sessions, and discussed the general problems of health and public instruction; and it was decided that each of its members should give talks on the subject as far as possible and make an endeavor to stimulate interest in this important subject throughout the state. The committee reports that the general in-

terest has increased throughout the state during the past year.

Respectfully submitted,
Paul E. Gardner,
Chairman.

No report from the Committee on Constitution and By-Laws.

Report of the Special Committee on Conservation of Vision and Hearing was read by the chairman, Dr. H. G. Langworthy.

REPORT OF COMMITTEE ON CONSERVATION OF VISION AND HEARING

The first really important work of this committee was to consider just what the needs of the state might be along such lines and to draw up a comprehensive plan of work covering possibly five years with the idea of working out as many of them as seemed practical, doing a few things well every twelve months. The plans outlined may be briefly stated as follows:

1. Lectures on medical inspection of school children at county teachers' institute meetings and elsewhere wherever possible in order to further the inspection of eyes, ears, noses, throats and teeth of the county children especially where it is badly needed. (Indeed one of the principal duties of the chairman's office has consisted in organizing a lecture bureau for Iowa by securing a competent specialist in each county where one could be found, and where none existed a general physician, who would agree to lecture on call from the county superintendent of schools, in the neighboring towns of his own county.)

2. Securing the teaching of conservation of vision and hearing in all normal colleges in the state.

3. The passage where needed of local measures relating to annual examinations of school children's eyes, ears, noses, throats and teeth and state laws looking to the conservation of vision in general among our people.

4. Organization of some kind of a general state association for conservation of vision and hearing open to everyone interested, with the idea of furthering co-operation between smaller independent societies, and in this way to render practical assistance in much needed legislative work.

5. Preparing an educational program of possibly five years for the proper education of deaf and blind children through a central state institution and affiliated day schools.

6. Establishment of cordial relations between this committee of the State Medical Society, the State Board of Health, Society for the Blind, Iowa Association for the Advancement of the Deaf and the Conservation of Vision Committee of the American Medical Association, of which committee, the writer has also been acting as state chairman for a number of years.

Of the foregoing we have this first year carried out two main things:

(a) We have several times circularized the county superintendents of schools of each county in Iowa and at least two members of the county medical society in each county, in an endeavor to get the county superintendent of schools and a local doctor together so that at least one lecture might be given to the rural teachers at the county teachers' institutes meeting for the furtherance of medical inspection of the eyes, ears, throats, teeth, etc., of school children in their rural district. This proved the means of securing lectures in a good many counties and through the courtesy of the A. M. A. press much educational literature was distributed and the foundation laid for many more lectures the coming year.

(b) Through the joint efforts of this special committee, the Iowa Association for the Advancement of the Deaf, the National Association of the Deaf and a few private individuals, two excellent bills relating to the education of the deaf were passed by the recent legislature and go into effect in July of this year. The first bill authorizes the transfer of the state school for the deaf at Council Bluffs from the State Board of Control to the State Board of Education; the second bill authorizes the establishment of day schools for the deaf in the various cities of Iowa where there is a sufficient number of young deaf pupils.

In regard to the passage of these two bills as giving some idea of the work involved I would state that we mailed over 2,000 letters in the way of correspondence, campaign literature, etc., throughout the state to legislators, educators, and others interested, representing for this work an outlay of several hundred dollars which I collected without much trouble from public spirited citizens of the state and particularly in Dubuque. It is thought by our educators that this second bill brought to so successful a consummation should serve as an entering wedge for further legislation relating to defective children in general.

In preparation for another year I might also state in closing, that as chairman of this committee I today held a meeting with a few of the educated deaf in a conference at the Chamberlain Hotel for outlining plans for the educational improvement of the deaf as provided for by our two new state laws and submitted same to the State Board of Education for their immediate consideration.

Respectfully submitted,
Henry G. Langworthy,
Chairman.

It was moved and seconded that the report be accepted. Carried.

It was moved that the special committee on conservation of vision and hearing serve for another year.

Seconded and carried.

Report of Committee on Publication, was postponed.

Report of Finance Committee, was deferred.

Report of the Committee on Public Policy and Legislation was read by Dr. Thos. F. Duhigg, chairman.

REPORT OF COMMITTEE ON PUBLIC POLICY AND LEGISLATION

The legislation enacted by the Thirty-Seventh General Assembly of Iowa relating to public health was all beneficial. New laws or amendments to old laws, intended to improve public health directly or indirectly include the following:

Vital Statistics—A bill providing for the systematic and thorough collection of information relating to births, deaths and the proper recording of this information has been backed by this Society in every session of the legislature for ten years. A bill was passed this year which makes a good start. It is not as good a bill as we desired and the appropriation is too small but since a start has been made and we really have a vital statistics law, it will ultimately be what we desire. The defects in the present law will become apparent and be eliminated and the appropriation will undoubtedly be increased. It is a distinct sign of progress and public enlightenment that any vital statistics legislation at all was passed. This Society deserves much credit for its activities in promoting this legislation.

Iowa Child Welfare Research Station—The State Board of Education is authorized to establish and maintain this station as an integral part of the state university. It contemplates a study of the best scientific methods of conserving and developing the normal child, the dissemination of the information and the training of students for work in such fields.

Twenty-five thousand dollars annually is appropriated for the work, out of money in the state treasury not otherwise appropriated.

The State Board of Health Bacteriological Laboratories—The appropriation for the maintenance of this laboratory was increased from six to eight thousand dollars.

Milk Ordinance for Cities and Towns—Towns, cities and cities acting under special charter are granted authority to prohibit the sale of milk or cream from cows which have not been tested for tuberculosis as prescribed in the ordinance.

Branding and Labeling Mattresses and Comforts—This bill provides for the branding and labeling of mattresses and comforts, forbids the use of unsanitarly, unhealthful, old or second-hand material in the manufacture of mattresses and comforts, and to provide against the sale of mattresses or comforts containing such unsanitary, unhealthful, old or second-hand material.

The only bills that were really dangerous to the public health were the so-called chiropractic bills which contemplated licensing chiropractors by a special board composed entirely of chiropractors. To give them a special board would be most extraordinary, since a single board now examines the graduates of all schools admitted to practice in this state, including regulars, homeopaths, eclectics and osteopaths. The graduates of no single school have ever had a special board composed of their own graduates exclusively. In addition the bills provided for very meager professional training and vitally omitted preliminary training from any consideration at all. Such legislation would admit hundreds of ignorant, untrained practitioners who would be a menace to the health and lives of the people. Ultimately it would affect unfavorably the mortality statistics of our state, which at present are among the most favorable of all the states of the Union.

The chiropractors maintained a paid lobby which exerted a tremendous influence through a well organized system which included personal interviews, telegrams and letters by thousands and petitions in bales. The largest single petition ever filed in the legislature was in behalf of their recognition as legal practitioners in this state and contained over 18,000 names.

Needless to say it came from Scott county. The number of petitions filed in their behalf was out of all proportion to their importance, compared with other matters under consideration. They became active very early in the session and remained active and close to the capitol until the end.

We advocated the passage of a bill requiring a high school education as a preliminary, and professional qualifications equal to the osteopaths which now require three years of nine months each. Two years hence, when the next legislature convenes the osteopaths will have raised their standard to four years of eight months each. For this reason we hoped rather to defeat all legislation on the subject in the last session and permit it to be settled in the next legislature when the standard, to which most every one believes they should be required to conform, will be four years instead of three. The result was as we had hoped for, and now we must ask still that they be required to conform at least to the osteopathic standard. I believe the legislature will take this view of the matter and I feel confident the chiropractors will not get a separate board nor a lower standard than other drugless healers. This would be an expensive courtesy to the chiropractor and a dangerous trifling with the health and lives of the people of the state.

It is interesting to observe that while it is usually difficult or impossible to get legislation which carries appropriations, especially legislation effecting the public health, that the Thirty-Seventh General Assembly was a happy exception to the general trend. Practically all of the important health legislation carried appropriations, and one of the bills, the Child Welfare Laboratory, carried a very large appropriation of $25,000. The proposed legislation which was defeated was rejected because it was harmful, for it carried no appropriation.

The only important beneficial legislation which failed before the health committees was the medical library bill. It provided for an appropriation with which to employ a trained medical librarian capable of interpreting all of the important languages. By this means photographic copies of any important

medical literature could be sent to any doctor in the state regardless of what language it might have been published in originally. The appropriation would put the library at the disposal of any physician in the state. We in Des Moines, already enjoy its advantages, but the appropriation would make its usefulness state wide. However, the bill was defeated by the influence of men in this Society, living outside Des Moines. It is a popular misunderstanding that the appropriation for the medical library would benefit only Polk county physicians. This delusion should be dispelled and the physicians in other counties must aid in getting this appropriation which is intended almost entirely for their special benefit.

Respectfully submitted,

Thomas F. Duhigg,
Chairman.

It was moved that the report be accepted. Seconded and carried.

Meeting adjourned until 8 A. M. Thursday morning.

The delegates then met in caucas by congressional districts to select members for the nominating committee, which was reported as follows:

First District—W. A. Sternberg.
Second District—D. N. Loose.
Third District—Wm. A. Rohlf.
Fourth District—Paul E. Gardner.
Fifth District—W. A. Vincent.
Sixth District—B. D. La Force.
Seventh District—Lewis Schooler.
Eighth District—T. M. Throckmorton.
Ninth District—C. S. Kennedy.
Tenth District—R. Evans.
Eleventh District—L. A. Wescott.

Second Meeting, Thursday Morning, May 10

The meeting of the House of Delegates was called to order by the President, Dr. J. F. Herrick, at 8:15.

Roll call showed fifty members present.

Roll call of Council showed four members present.

Report of the Committee on Necrology was made by the councilors as follows:

First District—No report.

Second District—Dr. Henry Albert, reported the death of Dr. E. F. Clapp, Iowa City.

Third District—No report.

Fourth District—Dr. Paul E. Gardner, reported no deaths.

Fifth District—G. E. Crawford reported no deaths.

Sixth District—No report.

Seventh District—Report of three deaths, Dr. T. F. Kelleher, Dr. F. J. Will and Dr. W. E. Vest.

Eighth District—J. F. Aldrich reported death of Dr. T. D. Stevens.

Ninth District—A. L. Brooks reported no deaths.

Tenth District—W. W. Beam reported death of Dr. E. G. Malin and Dr. H. G. Ristine.

Eleventh District—G. C. Moorehead reported no deaths.

Report was favorably acted upon.

Report of the special Committee on Workmen's Compensation was read by the chairman, Dr. D. S. Fairchild.

REPORT OF COMMITTEE ON WORKMEN'S COMPENSATION

The Committee in its report has taken into account principally matters relating to the Iowa law governing workmen's compensation, and such amendments to the law as were adopted at the last session of the legislature. We have thought to inform ourselves as to the effect of the law on the question of medical compensation.

The principle involved in workmen's compensation and sickness insurance are practically the same and involve the question of welfare to the industrial classes whose share in the world's profits is based largely on what can be earned by physical strength, and it is rarely more than sufficient to meet the daily requirements of the workingman's family.

Three questions must confront the working man, namely accident, sickness, and old age. These three conditions must be provided for. Most of the advanced countries of Europe, realizing that these three conditions must affect the working man, and excite a degree of anxiety and restlessness, determined to better the condition. To meet this, combined plans of insurance were proposed against accident, against sickness, and a provision for old age. There has been and is at the present time, much difference of opinion as to how proper provisions shall be made. Those whose mind turns towards paternalism on the part of the Government, feel that it should be the function of the Government to provide for these contingencies. Most writers on economics who have studied this question carefully, believe that the economical and most efficient method is a form of government insurance. Many labor leaders are opposed to governmental provision for working men for reasons of their own. There are numerous insurance companies that fear government interference in relation to insurance will be detrimental to their interest.

The medical profession seem strangely to be the least well informed, and have not considered the question from any point of view except from the point of view of fees; not that the medical profession are inherently more selfish than other classes, but because their point of view in relation to business does not carry them very far beyond the requirements of their practice. There is a duty, however, we owe to the public, and that is the study and consideration of the question from the standpoint of public utility and public service.

The unsatisfactory condition of the adjustment of claims against industries in this country, led to workmen's compensation, with more or less agitation in the direction of health insurance, while old age

pensions have hardly received any consideration in the United States. There is a great deal of loose thinking in regard to just what workmen's compensation involves, and more particularly what health insurance involves. The question involved in relation to accident insurance under workmen's compensation is that when an employe receives an injury, he is entitled to a certain per cent. of his wages as compensation during the period of disability, and medical, hospital and nurse services. Proper provision for these several things involves a material reorganization in our plan of surgical economics. The questions relating to the industry are questions of the burden of it. Industrial enterprises are organized for profit, and it is very natural that the industry should seek to eliminate every element that tends to increase the cost of production.

Our industrial scheme has been quite different from the industrial scheme worked out in some of the foreign countries, particularly Germany. In the United States, the economic idea has been to encourage competition, even to the extent of ruin of individualistic undertakings. In other countries, cooperation has been the plan, under government control, so as to eliminate the element of competition. The operation of these two plans, one finding expression in the United States, and the other in Germany, has been to place American industries at a serious disadvantage in the world's market. Therefore, under the plan of competition, workmen's insurance has thrown a burden on industry, which it has always sought to escape, and hence it follows that any scheme of insurance would be objectionable.

To make compensation laws operative in this country, it has been necessary to steer clear of certain objections which did not hold good under the co-operative plan, so that the expense may be kept within moderate limits. The payment of part time for injured employes has been accepted as a reasonable demand upon industries, but the question of payment of doctor, hospital and nurse bills, has been objected to. To meet this objection, plans have been in operation to render the medical bills as small as possible. In this country, with few exceptions, the state has not undertaken to administer the insurance, but has left the matter to the industries which have provided for these expenses through insurance with casualty companies. The casualty company being a private institution, has been obliged to fix such rates of insurance as would provide for medical treatment at a rate which did not make it too burdensome to the industry. On careful inquiry we have found that the casualty companies carrying industrial insurance were making very moderate profits, and the Iowa commissioner assures me that very few of the casualty companies are making more than moderate profits. The plan has been to ascertain as nearly as possible, what compensation injured workmen were able to make to the doctor when they paid the bill themselves, and have endeavored to adopt a schedule which would place the doctor in somewhat better relations to compensation than when he received the compensation from the injured employe. Every physician who has practiced among industrial workers, has found a great deal of difficulty in collecting bills against the working classes. From the doctor's standpoint, when he considers the industry which employs men, and when he considers the insurance companies that carry the risk, has been inclined to feel that instead of collecting what he would receive from the working man, he ought to receive a much larger compensation when the bills are paid by a presumably rich corporation and rich insurance companies.

The industries with the casualty companies which carried their risk, have endeavored to work out a plan which they feel offers the medical man more than he ever received before for a certain class of work, and have established a schedule which is now before us, and which has excited an unreasonable degree of antagonism because of the failure on the part of all parties concerned, understanding the relations of one to the other. As it stands now, we have two plans of industrial insurance; one involves the administration of insurance by the state collecting from the industries such sums as may be necessary to meet a per cent. on the workman's wages to be paid during his period of disability, and the other, a sum sufficient to pay the expenses of reasonable care on the part of the medical attendant. The second is a plan which involves a schedule of fees which are regarded as reasonable and which are provided for by some casualty company that carries the risk. We have then two legislative forces, one the interest and influence of the corporations and insurance companies, and the other the influence of the medical profession who renders the service.

If we are to adopt the plan which is in force in Iowa by which the corporation carries the risk with private companies, the schedule of fees must be such as these interests may agree upon; and the other is the question of whether the medical profession will accept such a schedule. The schedule which has been agreed upon in this state was presented to the Society a year ago for the approval of the profession, and which was carried over without action to this session. It appears to the committee that it is a question for the profession to say whether they will accept such schedule or not. Such members of the profession as are unwilling to accept this schedule, should withdraw from this class of service, and it should remain optional with other members who feel they can afford this kind of work for the sum provided. So far as we are able to determine, there is no disposition on the part of either the industries or the insurance companies to increase the fees already promulgated. We are informed that the insurance companies carrying risks in Iowa, offer voluntarily the schedule suggested with reasonable freedom of choice on the part of the injured workman, or to enter into contracts with physicians to render this service. There can be no question of

doubt but that the insurance companies will be able to secure a sufficient number of medical men who will enter into a contract of the kind stated, but the objection to contractural relationship is that there is danger of securing for the injured employe an inferior kind of surgical treatment. The insurance companies under present conditions have the recourse of submitting bills that are in excess of the schedule presented, to the industrial commissioner who has approved the insurance schedule and is inclined to cut all bills to the schedule referred to. At the last session of the legislature, the period of service rendered, has been extended from two weeks to four weeks, but there was no change in the gross sum which might be awarded for the hospital, the nurse, and the doctor which has been limited by law to $100.

While no plan of health insurance has been before the Iowa legislature, and while no bill of this class has been adopted by any legislative body within the past year, the matter is still under discussion, and the committee feel at liberty to present briefly the argument in favor of sickness insurance.

It may be held that there are private insurance companies that would be quite willing to carry the insurance that comes under the head of workmen's health insurance. This was true in England before the Lloyd George bill was passed by parliament, but a constant conflict between the private insurance companies and the physicians, became intolerable and was based on the plan of the insurance companies contracting with doctors to perform a certain amount of medical service, and as the profits were affected by the fees paid medical men, it was to the interest of the insurance company always to make contracts at the lowest figures. The same thing has been witnessed in the cities and larger towns in our own country, where to relieve the necessities of people unable to meet all expenses of sickness themselves, lodges have been formed and contracts made between the lodges and between physicians for a compensation far below the generally approved fee bill.

Lodge practice has fallen into disrepute because of the low fees paid physicians, but these private and public benefit organizations have suggested to the public a method of providing for the poor and unfortunate by means of creating a form of insurance under the laws of the state. Most of the laws bear the plain signs of inexperience, but so far as the medical practitioner is concerned, the effect is the same because however inefficient the compensation laws may be drafted or administered, the burden of low fees comes to the doctor. In most of the states, the laws were so made that there should be as little interference as possible with business interests, and in that the business of private accident and sickness insurance companies would not be interfered with, but no such consideration has been felt for the welfare of the medical practitioner. It must come sooner or later that the insurance against sickness and accident be administered in the most economical way without regard to the influence it may have on private insurance companies because the state will find it extremely difficult to provide expensive insurance cheaply, and in order that insurance shall be a real benefit to the working man, it must be administered cheaply, and we shall find therefore ultimately that the state will be at the expense of administering the insurance, and that the state will also fix the fees of physicians and the conditions under which these services shall be rendered, and it is highly important that the medical profession instead of antagonizing a government form of insurance, should co-operate with such economists as have the real welfare of the industrial classes at heart. We have observed here and there public expressions of medical dissent to all forms of industrial insurance insofar as it undertakes to fix the fees of the doctor. The strongest objection appears to come from the medical profession that is not liable to be affected by such legislation. For the present, at least, the agricultural classes are so well provided for that it is not contemplated extending this form of insurance to include agricultural laborers and domestic servants.

We are quite familiar with the fact that powerful private insurance companies that have an industrial feature, are opposing state insurance for reasons which are very apparent. We have observed some literature which has come from the hands of labor organizations, written apparently by persons skillful in the use of words and statistics, but a careful reading of these productions show that they have very little bearing on the question at issue. For instance, under the head of Health Insurance, a very skillfully prepared pamphlet was recently issued under the name of Warren Stone, head of the Brotherhood of Locomotive Engineers, but as a matter of fact, health insurance could not in any way affect this class of workmen for the reason that none of them enjoy an income less than $1,200 a year, and it is not contemplated to extend state insurance to persons having more than $1,200 a year. All men of this class would still be subjects for private sickness insurance companies of a voluntary nature. The general plan then of industrial insurance is that all industries shall protect their men against accident by carrying insurance administered by the state or private companies as the law may provide; that the industrial commissioner shall have the power of fixing the fees for physicians and for attorneys that may be employed in cases of appeal. The plan of sickness insurance is for the state to place the burden of ⅖ of the cost of insurance on the employe; ⅖ on the employer, and ⅕ on the state. This shall create a fund which shall be administered by certain committees made up of representatives of the workmen's interest, representatives of the industry's interest, and by representatives of the medical profession; that the rate of charges for medical services shall be fixed by the commission under legislative control, and bills for medical services shall be charged against these funds and paid in accordance

with certain rules. To prevent malingering and to prevent exaggeration, provision will be made for examiners that are not employed in the care of sick employes. The details of the plan have been worked out in a very elaborate way by Mr. Rubinow and Dr. Alexander Lambert, and have been published in the Journal of the A. M. A. and in communications which have appeared from time to time in a great number of medical journals.

The committee is of the opinion after a very careful consideration of the plans which have been presented, that a very material benefit will come both to the sick industrial workman and to the medical profession, and that it is a serious mistake on the part of the profession to antagonize the whole plan, inasmuch as it is quite apparent that if the medical profession does not take its share in inaugurating a scientific plan of industrial and health insurance, the state will formulate some plan that will leave the medical profession out of account. We are fully persuaded that the state will have no difficulty in securing a sufficient number of physicians on any plan they may be pleased to inaugurate, and we are informed that the various lodges that have undertaken to provide cheap medical service for their members, have also been able to secure a sufficient number of medical men; and the railway companies have found no difficulty whatever in securing a sufficient number of surgeons even at compensation much below that which is paid by the industrial insurance companies, and it is furthermore true that in England after the first resentment of the profession passed over, that there was no difficulty in securing sufficient medical service under the Lloyd George bill, and in Germany, in spite of the most vigorous protest on the part of the medical profession, adequate medical service has been secured. The committee does not suggest the adoption of a fee bill, but rather that the House of Delegates approve of the general plan of workmen's compensation with the schedule as the basis of medical fees.

Respectfully submitted,
D. S. Fairchild,
Chairman.

Motion was made by Dr. Thos. F. Duhigg that the report be rejected. Seconded. Discussed by Dr. Rominger of Allamakee.

Dr. C. P. Frantz made an amendment that the report be received and filed without action. Seconded. Discussion by Dr. Sternberg of Henry county; Dr. Hobson of Franklin county and Dr. Wescott of Cherokee county. Vote on the amendment carried. The original motion as amended, being duly seconded, carried.

It was moved and seconded that the Special Committee on Workmen's Compensation be continued. Carried.

NEW BUSINESS

Under the order of new business, Dr. Clinton E. Harris of Poweshiek county, presented the following resolution:

Be it Resolved by the House of Delegates of the Iowa State Medical Society:

That we officially declare ourselves opposed to any organized effort to defeat medical cult legislation at the next session of the Iowa legislative assembly.

Be it Further Resolved:

That this action is not to be construed as a departure from our past and present conviction that there should be a uniform standard of licensure for all practitioners of the healing art, from whatever school or cult.

Be it Further Resolved:

That a copy of this resolution be sent to each member of the Senate and House at the beginning of the session of 1919.

It was moved and seconded that the resolution be laid on the table. Motion prevailed.

Dr. Paul E. Gardner of Chickasaw county, presented the following resolution:

Be it Resolved by the House of Delegates of the Iowa State Medical Society: That the Editor of the Journal of the Iowa State Medical Society be authorized to establish in the Journal a Department of Preventive Medicine for the monthly publication of special articles in this field and the promotion of public health work in Iowa.

Motion to adopt the same, was duly seconded, and carried.

A request was made by the secretary that the 1917 dues of Dr. Paul W. Van Metre formerly of Atkins, Benton county, now serving as a medical missionary in Siam, be remitted and the Journal sent to him. It was moved and seconded that this request be granted. Carried.

A communication from the American Medical Association relative to a canvass of the state for additional members to the Society, was read by the secretary.

AMERICAN MEDICAL ASSOCIATION

Chicago, Feb. 7, 1917.

Dr. T. B. Throckmorton, Sec'y,
Iowa State Medical Society,
Des Moines, Iowa.

Dear Doctor Throckmorton: The American Medical Association employs field men to look after subscriptions and Fellowship matters. The reports from these men, as well as from other sources, convince us that co-operation with component state association can be conducted with mutual advantage.

Accordingly, the Association selected certain salesmen (designating them organizers) to try out such a plan as follows: The organizer is provided with a list of the physicians of each county. This list is checked with the records at this office to indicate the physicians who are members of the state organization, and whether Fellows of the American Medical Association, or subscribers for the Journal. With this data in his possession, the organizer is sent to

the secretary of the state association in the state in which the work is to be done. The organizer, visits the secretary of the state association in order that the two may mutually understand each other; that the organizer may benefit from such advice and suggestions concerning the work as the secretary may wish to give, and that the secretary may see at first hand the general directions and the data furnished from the American Medical Association headquarters. If possible, the organizer then will go directly to the councilor in the district assigned, discuss the local situation with him, and obtain his co-operation if possible. The organizer, next reports to the secretary of the county society in which he is to start work, and enlists the co-operation of local officers and members. Sometimes the foregoing procedure, in all its details is not practicable, but in any case, after leaving the state secretary, the organizer reports to the secretary of the first county society as he enters his district, and arranges to confer with the councilor as soon as possible.

The organizer, checks over the list of non-members in the county and arranges to call on only those who are adjudged "acceptable" by the officers or by members of the local society. He calls on each of these non-members, who can be found, and explains the advantages of the organization, and endeavors to obtain an application for membership from this non-affiliated physician together with a deposit for the dues, when this collection is agreeable, and transmits the applications and the money collected to the local secretary; reporting each week to the state secretary and to this office. He also makes reports on the conditions affecting the organization, as he sees them, in each county and district. In addition to this, he seeks to increase the Fellowship in the American Medical Association wherever possible, and is privileged to solicit orders for subscriptions for the Journal.

For this work, the American Medical Association provides a modest traveling allowance and a nominal salary, and in addition a commission for new subscriptions for the Journal. The State Society, co-operating in this plan, is asked to pay the organizer one dollar ($1.00) for each member who qualifies after being elected on an application taken by the organizer.

The success of this plan depends in great measure on the local officials, whose co-operation with the organizer is essential.

Certain men have developed special ability for this work. They work carefully, thoroughly and systematically, being governed, of course, by the local conditions and the time and expense required. This plan has produced good results in a number of states, and we submit it to you, believing that your State Society might like to join in such work.

Will you kindly let us know if it is agreeable to you to co-operate on this basis, in order that we may discuss further details.

Yours truly,

American Medical Association,

Alex R. Craig, Secretary.

Dr. Treynor moved that the communication be laid on the table. Seconded and carried.

Meeting adjourned until 8 o'clock Friday morning.

Third Meeting, Friday Morning, May 11

The House of Delegates was called to order at 8:10 by the President, Dr. J. F. Herrick.

Roll call showed the presence of thirty-eight delegates and seven officers.

Minutes of the Wednesday afternoon and Thursday morning meetings were read, and approved, with the following additions to the report of the Committee on Necrology; report of death of Dr. Elihu L. Cook of Harlan, in the ninth district; Dr. Lee M. Nausbaum of Storm Lake in the eleventh district, and Dr. Edward James Gable of New Albin in the fourth district.

NEW BUSINESS

On behalf of the Nominating Committee, Dr. Paul E. Gardner presented the following report:

Your Committee on Nominations reports as follows:

Officers

President-elect, Max E. Witte of Clarinda; Wm. L. Allen of Davenport, and Frank M. Fuller of Keokuk.

First vice president, M. J. Kenefick of Algona.

Second vice-president, E. B. Howell of Ottumwa.

Journal editor, D. S. Fairchild, Sr., of Clinton.

Trustee, T. E. Powers of Clarinda.

Delegate to American Medical Association, W. B. Small of Waterloo.

Alternate, Granville N. Ryan of Des Moines.

Committees

Medico-Legal, Dr. Lewis Schooler of Des Moines.

Health and Public Instruction, Dr. Jeannette F. Throckmorton of Chariton.

Constitution and By-Laws, Dr. D. C. Brockman of Ottumwa; Dr. V. L. Treynor of Council Bluffs and Dr. M. J. Kenefick of Algona.

Finance, Dr. W. W. Pearson of Des Moines; Dr. C. P. Frantz of Burlington and Dr. C. J. Saunders of Fort Dodge.

Public Policy and Legislation, Dr. Thos. F. Duhigg of Des Moines; Dr. B. L. Eiker of Leon and Dr. W. S. Conkling of Des Moines.

The next order of business being the election of officers, the House proceeded with the election, the president appointing as tellers, Dr. W. A. Sternberg and Dr. V. L. Treynor. The ballot for president-elect resulted as follows: Dr. Wm. L. Allen, ten; Dr. F. M. Fuller, twelve, and Dr. Max E. Witte, twenty-three. Dr. Max E. Witte having received the majority of votes cast was declared elected by the president.

It was moved by Dr. L. W. Littig that the election of Dr. Witte be made unanimous. Seconded and carried.

Dr. L. A. Wescott moved that, in view of the fact that there is only one candidate for each of the other offices, the by-laws be suspended, and the sec-

retary be authorized to cast the ballot for the other officers as reported by the Nominating Committee. Seconded and carried. The secretary then cast the ballot as instructed, and the president declared the nominees as reported by the Nominating Committee duly elected.

The report of the delegates from the second district presented the name of Dr. L. W. Littig for councilor of that district. It was moved that the report be accepted and the by-laws suspended and the secretary cast the ballot for the councilor. Seconded and carried.

The secretary cast the ballot as instructed, and the president declared Dr. L. W. Littig duly elected.

The report of the delegates from the ninth district presented the name of Dr. A. L. Brooks of Audubon, for councilor of that district. It was moved and seconded that the rules be suspended and the secretary cast the ballot for the house. Carried. The ballot was then cast by the secretary for councilor.

The secretary then cast the ballot and the president declared Dr. A. L. Brooks elected.

Dr. V. L. Treynor offered a supplementary report to the report of the Nominating Committee, that the next place of meeting of the Iowa State Medical Society be at Fort Dodge.

On motion, duly seconded and carried, Fort Dodge was made the next place of meeting.

Report of the committee on secretary's salary was made by Dr. V. L. Treynor as follows:

REPORT OF COMMITTEE ON SECRETARY'S SALARY

Your committee on secretary's salary, because of the limited time at its disposal finds it impossible to secure sufficient data on which to base an opinion as to fair compensation of secretary for services rendered.

In our limited investigation we find that a considerable portion of the secretary's time, and that of his clerical help is devoted to the Journal and would suggest the advisability of determining as nearly as possible how much time is devoted to duties connected with the Journal and that the Journal account be properly charged with same.

Our secretary has rendered exceptionally valuable service and should receive an increase in salary. We deem it inadvisable to make definite recommendation as to increase at this time. We recommend that the incoming president appoint a committee to investigate the matter of salaries paid in other state societies comparable to ours in membership and that the report and recommendations of said committee be presented at the next annual meeting, and that any increase in salary granted apply to the forthcoming fiscal year.

V. L. Treynor,
L. W. Littig,
B. D. La Force.
Committee.

Dr. V. L. Treynor moved that the report be received and that the incoming president appoint a committee to investigate the advisability of increasing the secretary's salary and said committee to report at the next session of the House of Delegates, and any increases in salary if any be made, apply to the coming fiscal year. Seconded and carried.

The report of the Committee on Publication was read by Dr. Tom B. Throckmorton, chairman.

REPORT OF PUBLICATION COMMITTEE

The Publication Committee beg leave to submit the following report:

Since the Society has owned its Journal, many strides have been made for the betterment of the same until at present the Journal of the Iowa State Medical Society is the equal of any, and indeed, the peer of many of the medical journals published by our sister state societies.

Although the yearly contract made with the printers by the Board of Trustees calls for a monthly issue of sixty-four pages, during the past year, seven issues, only, were of the sixty-four page type, while two issues were of the seventy-two page type and three issues of the eighty page type which increase entailed an additional expense of approximately $255.

We are also pleased to report that after all items of expense connected with the Journal, its publication, engravings, editor's salary, commission to business manager, et cetera, were paid, a surplus of $122.83 was turned over to the treasurer by this department.

Respectfully submitted,
W. L. Bierring,
Tom B. Throckmorton.
Committee.

It was moved and seconded that the report be accepted. Carried.

Dr. C. J. Saunders reported for the Finance Committee as follows:

REPORT OF FINANCE COMMITTEE

To the Iowa State Medical Society:

Your Finance Committee has checked over all items of receipts and expenditure, as shown in the secretary's report and the treasurer's report, and find that they are correct and in accordance with the stubs of treasurer's check book.

It was moved and seconded that the report be accepted. Carried.

Dr. W. A. Sternberg moved that the House of Delegates concur in the resolutions passed by the general session that one-third of the fees collected from cases belonging to physicians going to the front be turned over to them or to their families. (See proceedings general session.) Dr. V. L. Treynor made an amendment that the Council be instructed to formulate a definite plan with recommendations to the various county medical so-

cieties whereby this plan be accomplished, the same to be published in the Journal of the Iowa State Medical Society at an early date. Seconded by Dr. C. S. Kennedy. Carried.

The original motion, as amended, being duly seconded, carried.

Dr. Thos. F. Duhigg read the following resolution which had been presented before the Committee on Public Policy and Legislation by the Webster County Medical Society, and requested that the resolution be presented before the general session.

"Be it Resolved by the Iowa State Medical Society: That in all cases where the sanity of any individual is the issue, the county insane commission, as now constituted, shall determine the question of sanity or insanity of the individual; and that appeal, if taken, shall be to a state commission of alienists composed of the superintendents of the state hospitals who shall be named as such commission by the governor, and that the decision of such commission shall be final as to the sanity or insanity of such individual.

"Be it Resolved: That the President of the Iowa State Medical Society shall appoint a committee of three to confer with a like committee from the State Bar Association to formulate a bill covering the provisions of this resolution for presentation at the next session of the General Assembly of the State of Iowa."

Request was made that Dr. J. W. Kime, Dr. M. J. Kenefick and Dr. C. J. Saunders, although not members of the House of Delegates, be allowed the privilege of the floor to explain the situation which brought forth the resolution.

On motion, duly seconded and carried, the request for the privilege of the floor was granted.

It was moved and seconded that the resolutions be presented before the general session. Carried.

On motion duly seconded and carried, the House of Delegates adjourned to meet in Fort Dodge the second Wednesday in May, 1918.

Tom B. Throckmorton,
Secretary.

GREETINGS FROM DR. C. F. WAHRER

To the Iowa State Medical Society:

Greetings—I desire to hereby thank you for your kind and thoughtful consideration, when you sent me a telegram of greetings and good wishes. It makes life sweeter to know that such splendid fellows as you, are my friends, and in your busiest moments can take time to think of an absent one.

Allow me to say that after a long sickness I have fully recovered and hope to take my place with you as formerly.

Gratefully yours,
C. F. Wahrer.

Fort Madison, Ia., May 21, 1917.

MINUTES OF THE COUNCIL

The Council met at the Chamberlain following the meeting of House of Delegates and elected the following officers: Chairman, Paul E. Gardner, of New Hampton; secretary, G. C. Moorehead, of Ida Grove.

L. W. Littig,
Secretary pro tem.

REPORT OF COMMITTEE ON ARRANGEMENTS, DES MOINES MEETING, 1917

Receipts

Received from Commercial Exhibits	$640.00

Disbursements

Programs, tickets, etc.	$ 18.45
Ladies reception	27.55
Chamberlain Hotel	233.50
Orpheum Theater	35.75
Music	62.00
Rent	25.00
Des Moines Electric Co.	25.68
Janitor service	8.00
Stenographer	10.00
Stationery and stamps	12.00
Cigars	20.00
Telegrams	4.50
Signs	9.40
Zinc etching	3.50
Incidentals	12.27
Total	$507.60
Balance paid to State Society	$132.40
Grand total	$640.00

Respectfully submitted,
A. P. Stoner,
Chairman Arrangements Committee.

THE TWENTIETH ANNUAL MEETING OF THE STATE SOCIETY IOWA MEDICAL WOMEN

The Twentieth Annual Session of the State Society Iowa Medical Women was held at the Chamberlain, Des Moines, May 8, 1917. In the absence of the president, Dr. Lily Kinnier of Dubuque, the vice-president, Dr. Laura H. Branson of Iowa City presided.

The following officers were elected for the ensuing year:

President, Dr. Laura House Branson, Iowa City.

First vice-president, Dr. Jeannette F. Throckmorton, Chariton.

Second vice-president, Dr. Josephine Wetmore Rust, Grinnell.

Third vice-president, Dr. Rose Butterfield, Indianola.

Secretary, Dr. Ida G. Rhodes, Cedar Falls.

Treasurer, Dr. Nelle Noble, Des Moines.

The following resolution was formed and duly sent to the President of the United States and War Department of the United States of America:

"The State Society of the Iowa Medical Women in annual session in Des Moines, Iowa, May 8, 1917, hereby resolve that we are ready and willing to serve our country in any capacity most helpful in the present crisis."

Dr. Lena Meanes of Des Moines, presented to the Society the idea of a scholarship fund subscribed to by the members of the Women's State Medical Society. Accompanying this was the initial offer of $1,500 by Dr. Agnes Eichelberger of Sioux City, and a committee was later appointed by the president to investigate the best way of applying and taking care of scholarship loans.

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DISEASE OF THE INTERNAL EAR IN ITS RELATION TO GENERAL MEDICINE*

ADDRESS IN MEDICINE

Geo. E. Shambaugh, M.D., Chicago

Disease of the internal ear is of special interest to the general practitioner for two reasons in particular. In the first place there are many cases of labyrinth disease where the involvement of the internal ear is but a local manifestation of some general disorder. In the second place, the question of diagnosis between intracranial trouble and those disturbances of the labyrinth associated with attacks of vertigo, constitutes an important clinical problem.

A knowledge of a few facts concerning the physiology of the labyrinth is essential to a clear understanding of the symptoms resulting from disease of this organ. The fact that there exists in the labyrinth three types of end organs, the organ of Corti in the cochlea, the macula acustica in the vestibule, and the crista acustica in the semi-circular canals, was recognized by the anatomists long before the physiologists realized that these end organs had a function other than hearing. Indeed, as late as 1870 the labyrinth was still looked upon as a mechanism which had to do solely with the function of hearing. This function was divided among the three types of end organs as follows: To the organ of Corti was attributed the function of tone perception, to the macula acustica the function of noise perception, and to the end organ in the semi-circular canals, the crista acustica, was attributed the function of determining direction from which sound comes.

Flourens, in 1828, had called attention to the peculiar disturbances in equilibrium resulting from injury to semi-circular canals of pigeons. These phenomena were explained by some writers as a result of subjective sound impressions and by others as a result of injury to the brain occasioned by the operations on the semi-circular canals. Meniere, in 1861, reported a series of cases of labyrinth disease presenting the symptom of vertigo. One of these cases had died from an unknown cause five days after the onset of vertigo and the post-mortem examination had disclosed a grumous mass filling the semi-circular canals, while nothing was discovered by macroscopic examination of the brain and spinal cord. On the basis of these findings and with the results of the experiments of Flourens in mind, Meniere concluded that the symptoms observed in his cases were the result of hemorrhages into the cavities of the labyrinth. Previous to these publications of Meniere, vertigo had been considered a symptom peculiar to intracranial disease. Vertigo is now recognized to be as distinctly a labyrinth symptom as is tinnitus, and is always the result of a disturbance of the vestibular nerve, either in its peripheral distribution in the semi-circular canals or in the central paths of this nerve in the brain itself.

With the recognition of the fact that vertigo is a conspicuous symptom of certain types of labyrinth disturbance, disease of the internal ear has taken on a much wider significance and has become a subject of great interest to the internist, especially in the diagnosis from disease of the brain. The significance of the symptom of vertigo has been understood only since we have recognized that the nerve which supplies the end organs of the vestibule and semi-circular canals, the vestibular nerve, has nothing to do with hearing, but has as its chief function the preservation of the body equilibrium. Vertigo is a symptom arising from a disturbance of this vestibular nerve. In order to understand how disease of the internal ear produces vertigo, it is necessary to have a clear conception of how the vestibular mechanism performs its function of preserving equilibrium.

The equilibrium of the body is dependent on the constant flow of tonus impulses to the skeletal muscles, which keep these muscles in a state of mild stimulation. Tonus impulses from the end-organs of the semi-circular canals play an important part in supplying this tonus to the skeletal muscles. Now the impulses from the

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two labyrinths stimulate for the most part opposing groups of muscles, and since the impulses from the two sides are equal, a state of equilibrium is preserved. It is quite evident that this balance may be disturbed by either an increase or a decrease in the flow of tonus impulse from one labyrinth. As a matter of fact, however, it seems quite clear that such disturbances arise chiefly through a unilateral decrease rather than through an increase in this tonus. It is, moreover, an interesting clinical fact that the disturbance in equilibrium occasioned by the unilateral loss of labyrinth tonus is quite transitory, since a readjustment is rapidly acquired. It is furthermore a well known clinical fact that loss of function in one or both labyrinths may proceed to complete destruction of this function without ever producing the symptom of vertigo, provided only that the defect has developed insidiously and without acute exacerbations. Vertigo, therefore, is a symptom arising only from a rapid disturbance of the function of the vestibular mechanism and is as a rule quite temporary in its manifestation. Even where the entire function of the labyrinth has been suddenly destroyed as the result of an injury, or from a diffuse suppuration in the labyrinth the resulting vertigo lasts, as a rule, for but a few weeks. The persistence of the symptom of vertigo is, therefore, either the result of repeated exacerbations of a process involving the peripheral mechanism of the labyrinth or it is occasioned by an intracranial condition involving the central tracts of the vestibular nerve.

When we inquire regarding the several types of disease processes which involve the internal ear, we find that the labyrinth may be invaded by disease from the neighboring parts; that is, from infection from the middle ear as well as from a meningitis; or it may be involved primarily; that is, independent of disease of the neighboring structures. The primary diseases of the internal ear are in some respects of greater interest to the general practitioner because they are, as a rule, but a part of a general systemic condition. The conditions developing in the labyrinth as a result of extension from middle ear infection are better understood than are those which develop primarily in the labyrinth, and there are a number of clinical facts brought out by more recent studies of these cases which are of interest to the general practitioner as well as to the otologist. Labyrinth disease secondary to middle ear suppuration occurs usually as a sequel of an acute otitis media or of an acute exacerbation of a chronic otitis media. In some cases of chronic otitis media the invasion of the labyrinth takes place by the gradual erosion of its bony capsule, either as the result of a process of caries or from bone absorption caused by a cholesteatoma. In these cases the labyrinth involvement is often circumscribed about the fistula resulting from the erosion.

A frequent form of labyrinth involvement resulting from acute otitis media produces symptoms limited to the cochlea. The patient experiences a severe high-pitched tinnitus and there is a defect in the hearing that is not wholly the result of obstruction in the sound conducting mechanism. A more or less extensive defect is detected by means of the Galton whistle at the upper end of the tone scale, which can be accounted for only as the result of an involvement of the labyrinth. The injury to the hearing and the tinnitus in these cases usually disappear in the course of a few weeks after the subsidence of the otitis media.

An interesting type of labyrinth disease resulting from extension of middle ear suppuration is the diffuse labyrinthitis which involves not only the cochlea but also the vestibular parts of the internal ear. The symptoms produced by these processes are tinnitus and nerve deafness, from the involvement of the cochlea, and more or less marked vertigo and nystagmus, resulting from the acute involvement of the semi-circular canals. The severity of the process involving the labyrinth varies widely. In the milder cases there is but a temporary suppression of function in the cochlea as well as in the vestibular parts. In the severer cases the suppression of function is complete for both the cochlea and the semi-circular canals. The loss of function in the severe cases is usually permanent, but in some there may be a partial return of function. The milder cases are a result of a serous labyrinthitis, while the most severe cases are results of a purulent labyrinthitis. Clinically the diagnosis between the serous and the purulent cases of diffuse labyrinthitis is not always possible. A partial loss of function can apparently only occur in the cases of serous labyrinthitis, whereas the suppurative labyrinthitis always results in a complete and permanent destruction of function. On the other hand there are cases of total suppression of function where there is later, at least, a partial restoration of function. These cases are supposed to be the result of a serous form of labyrinthitis.

Diffuse suppuration of the labyrinth is a serious menace, not only because it destroys permanently the function of the labyrinth but because it not infrequently leads to an extension of the infection to the brain cavity, resulting in a

meningitis or a cerebellar abscess. The most conspicuous symptoms produced by diffuse labyrinthitis are those arising from the involvement of the vestibular apparatus. The unilateral suppression of labyrinth tonus results in a marked disturbance of equilibrium with intense vertigo and nystagmus. The continuation of the normal tonus from the opposite ear, acting without the restraint of the impulses from the affected ear, tend to throw the patient over to the affected side. The eyes are also drawn slowly to the affected side but by the action of cerebral impulses are quickly drawn back to the normal side. This movement of the eyes constitutes a nystagmus which continues uninterrupted but with gradually decreasing intensity for some weeks after the destruction of the labyrinth. In cases where after the destruction of the labyrinth by the suppurative process the infection extends to the cerebellar cavity, a new set of vestibular symptoms arise as the result of the central disturbance of the vestibular tract. A vertigo with increasing intensity arises, associated with a nystagmus which is also increasing in severity. The direction of the quick movement of the eyes in this nystagmus is as a rule, towards the affected side instead of toward the normal side, as is always the case in total destruction of the labyrinth.

Some interesting clinical problems present themselves in the treatment of these cases of labyrinthitis secondary to middle ear infection. The question is largely one of deciding when to operate on a labyrinth in order to provide drainage, so as to prevent the development of a more serious intracranial extension. All are agreed that an operation in the milder cases of diffuse labyrinthitis should not be done. Such cases rarely, if ever, lead to intracranial extension. It is only the cases of diffuse suppuration of the labyrinth where the danger from an intracranial extension is such that an operation on the labyrinth is to be considered. A difficulty at once presents itself of determining which cases presenting complete suppression of the labyrinth function are cases of serous labyrinthitis from which a partial return of function may be looked for and from which an intracranial complication is extremely improbable, and the cases of diffuse suppuration of the labyrinth with a permanent destruction of function and from which an intracranial complication is quite possible. Since the diagnosis between these two types of cases is not possible, we are inclined not to base the conclusion to operate on a total suppression of labyrinth function. In general it may be stated that, as a rule, only those cases of diffuse labyrinthitis with complete suppression of function should be subjected to the labyrinth operation where the recognized clinical indications already exist for a mastoid operation. This applies to the chronic, as well as to the acute cases of otitis media. Exceptions should be made of those cases where symptoms appear which indicate a threatened intracranial extension, such symptoms, for example, as persistent headache, especially when associated with a rise in temperature and an increase in the cellular elements in the cerebro-spinal fluid.

Cases of primary disease of the labyrinth present many points of interest to the general practitioner as well as to the otologist. Accurate knowledge regarding these conditions has been hard to obtain, because of the difficulties which surround the study of their pathology. Certain facts have, however, become established, as much perhaps through the study of the clinical symptoms as by actual postmortem examinations. That syphilis plays an important part in the occurrence of primary labyrinthitis is well known. Involvement of the internal ear is frequently an early symptom of secondary lues, where its presence is shown by the development of a continuous high-pitched tinnitus and a circumscribed defect in the hearing restricted to the upper part of the tone scale. A more or less marked shortening of the bone conduction is also characteristic of this trouble. An involvement of the vestibular apparatus in such a way as to cause vertigo is not so common, but does occur. Degeneration in the labyrinth is not uncommon in tertiary lues. The process is often insidious in its development, where it causes only the usual symptoms of tinnitus and a gradual development of nerve deafness, without ever giving rise to vertigo. Fulminating cases of labyrinthitis in tertiary lues are, however, not so uncommon. Here, in the presence of a high-pitched tinnitus, there develops a rapidly increasing nerve deafness. These cases are not infrequently associated with severe attacks of vertigo, which always indicate a rapid destruction of the function of the vestibular apparatus. Hereditary lues is also prone to involve the internal ear, producing tinnitus and nerve deafness, with or without attacks of vertigo. The presence of vertigo is dependent again not so much on whether the vestibular apparatus is involved but rather on the occurrence of acute exacerbations of a degenerative process involving the vestibular mechanism.

The question of labyrinth disturbance as a result of hemorrhage into the internal ear is a very interesting one. Meniere attributed the sudden attacks of vertigo associated with

tinnitus and deafness in the eleven cases reported by him to hemorrhages into the labyrinth. It seems doubtful now whether these symptoms in any of the cases reported by Meniere were the result of hemorrhage into the labyrinth. No one can doubt that hemorrhage into the internal ear will produce the characteristic Meniere-Symptom-Complex, but it seems extremely doubtful whether such hemorrhages are a frequent cause for these symptoms. Hemorrhages into the labyrinth are known to occur especially in such constitutional diseases as pernicious anemia, leukemia and purpura. An embolus lodging in the labyrinthine artery will also give rise to the characteristic Meniere-Symptom-Complex. Except, however, for air emboli in caisson workers, this is even more rare than an actual hemorrhage.

Neuritis of the eighth nerve is a very frequent cause of primary involvement of the labyrinth. This neuritis may be the result of poisoning from drugs, such as quinine, tobacco, or alcohol. The disturbance in such cases is usually temporary and disappears quickly after the drug is discontinued. Neuritis, as the result of the toxic action of infectious fevers is met with especially in measles, mumps, scarlet fever, diphtheria, typhoid fever and florid tuberculosis. In these cases the process may involve either the cochlear or vestibular nerves alone, but frequently it involves both of these nerves. In those cases where the cochlear nerve alone is affected, a high-pitched tinnitus with typical nerve deafness are the only symptoms. Whenever the vestibular nerve is affected there will be attacks of vertigo associated with nystagmus, provided the process is associated with acute exacerbations. On the other hand, an insidious involvement may proceed without once causing attacks of vertigo. That the vestibular nerve is involved in these cases can, as a rule, be readily detected by means of the turning tests or by caloric stimulation of the semi-circular canals.

The most frequent condition producing nerve deafness and vertigo is a primary degenerative process involving, as a rule, both the cochlear and vestibular nerves, which develops independent of either syphilis or the infectious fevers. The progress of the condition is often quite insidious, producing only tinnitus and deafness, but it is not uncommon for it to be punctuated by distinct attacks of acute exacerbations. These acute attacks always give rise to the typical Meniere-Symptom-Complex, provided both parts of the eighth nerve are involved. The severity of the symptoms varies greatly, not only in different cases but in different attacks of the same case. Occasionally a single attack destroys permanently the entire function of the labyrinth. In these cases there can be, of course, but one attack, unless it should happen that the opposite ear becomes later involved. In those cases where the function of the labyrinth is only partially lost there are, as a rule, a series of these attacks, extending occasionally over a period of several years and occurring at irregular intervals.

It is these cases of primary involvement of the labyrinth, with sudden acute exacerbations producing the characteristic Meniere-Symptom-Complex, that have been reported from time to time as cases of Meniere's disease, and it was assumed that only hemorrhage into the labyrinth could account for the attacks. In the milder attacks, especially where the symptoms were quite transitory, it was often assumed that they were the result of an angio-neurosis. As a matter of fact, it is not possible to draw a sharp distinction between the more severe attacks where a hemorrhage into the labyrinth could account for the symptoms and the milder cases where from the transitory character of the symptoms an actual hemorrhage into the labyrinth could be positively excluded.

These cases of primary involvement of the internal ear not associated either with lues or the infectious fevers, I have suggested may be the result of a degenerative neuritis of the eighth nerve, produced by such foci of infection as exists so frequently in the faucial tonsils and about the teeth. This origin of the labyrinth symptoms accounts readily for the sudden attacks which result in the production of vertigo. Sudden acute exacerbations is a characteristic symptom observed in the course of neuritis occurring elsewhere as the result of focal infection. Each acute attack registers the liberation of a fresh shower of bacterial emboli into the circulation, which lodge now in this nerve, now in that, as the result of some not as yet understood selective action. For obvious reasons, it will be more difficult than is the case in involvement of other nerves to demonstrate therapeutically, that is by the removal of the primary focus, that the degeneration of the eighth nerve is the result of a focal infection. It is only the acute exacerbations which produce the characteristic Meniere-Symptom-Complex in these cases, and, as I have already pointed out, a single attack may result in a permanent destruction of function of the eighth nerve, when, of course, no subsequent attacks are possible. It is, moreover, a well-recognized clinical fact that these attacks of vertigo disappear spontaneously. This may occur after only one or two attacks which leave only a par-

tial loss of function, while in other cases the disappearance of the attacks takes place only after the complete destruction of the function of the labyrinth, as can be demonstrated by the turning tests or by caloric stimulation.

Since vertigo may be the result of some interference with the central paths of the vestibular nerve, as well as by the involvement of the peripheral mechanism in the labyrinth, the interesting practical question presents itself in cases of vertigo of determining whether the trouble is located in the labyrinth or in the brain itself. Time will not permit me to go into this interesting question very deeply. I will therefore simply call your attention to some of the points to be considered in making this diagnosis. In the first place, the presence of a suppurative disease in the middle ear at once suggests the possibility of an extension into the labyrinth as a possible cause for the attacks of vertigo. In these cases where an infection has extended into the labyrinth the hearing is, as a rule, completely destroyed and the patient suffers from a severe tinnitus. Spontaneous nystagmus is present and is directed toward the normal side, while caloric stimulation of the affected ear elicits no response. In the absence of a suppurative otitis media, disease in the labyrinth should be suspected as the cause of vertigo in those cases where the functional tests disclose distinct evidence of a nerve deafness, even if this is not marked. This suspicion should be greater in those cases where the attacks of vertigo are associated with a distinct increase in the tinnitus and the deafness. The functional examination of the hearing in these cases will disclose evidence of typical nerve deafness such as a shortened bone conduction and a defect in hearing especially marked at or even entirely limited to the upper part of the tone scale. At the same time, the functional examination of the vestibular apparatus will disclose unmistakable evidence of a loss of function in the semi-circular canals. For example, when one labyrinth alone is involved, the duration of the nystagmus resulting from rotation will be greater when the patient is turned toward the affected side, because on stopping the rotation it is now chiefly the normal side which is stimulated. By means of caloric stimulation the result is equally striking and in a measure even more convincing, for the reason that by this means each ear can be stimulated separately. When the labyrinth is completely dead, no vertigo or nystagmus follows even prolonged irrigation with cold water. When there is but a partial loss of function the response from caloric stimulation will be much slower and less marked than for a normal ear.

An intracranial condition, on the other hand, which is responsible for the symptom of vertigo as the result of irritation of the central tracts of the vestibular nerve, rarely affects the cochlear nerve. The most striking exception is when the vertigo results from a tumor developing in the cerebellar-pontine angle. In these cases the cochlear fibres of the eighth nerve are likely to be sooner or later involved, with the development of nerve deafness as well as tinnitus.

In cases of intracranial disease causing vertigo, we have in the so-called pointing tests a valuable aid in making the diagnosis. These tests depend on the principle that after stimulation of the semi-circular canals, either by rotation or the caloric tests, the patient is unable in a normal case, with the eyes closed, to touch a certain point. For example, on stopping after being rotated, a patient gets the impression that he is being rotated in the opposite direction. In making an effort to touch a certain point while this sensation lasts, he will invariably past point towards the side to which he was being rotated. In the same way, if an ear is irrigated in a normal case, with cold water, there will develop a nystagmus toward the opposite side and the patient will tend to fall toward the side which is being stimulated. Here again he will invariably past point toward the side to which he is inclined to fall, that is, toward the side which is being stimulated.

When there is some intracranial condition which is responsible for the symptom of vertigo, it has been found that the stimulation of the peripheral mechanism in the labyrinth, while it may give rise to the normal response as far as the production of nystagmus is concerned, fails to produce the typical past pointing that takes place in a normal case. In other words, after rotation, as well as after caloric stimulation, the patient is still able to touch a known point with his eyes closed. The central path for the fibres from the horizontal canals appears to take a different course from that pursued by the fibres of the superior canals. For this reason, it not infrequently happens that an intracranial lesion will interfere with a normal past pointing after stimulation of the horizontal canal, that is, after rotation in the upright position, but will not interfere with the impulses from the superior canal which are produced by caloric stimulation with the head upright. In the latter case the patient will still past point as in the normal.

Summary

Disease of the internal ear has taken on a much wider significance since it has been recog-

nized that vertigo is a symptom which is the result of some disturbance of the vestibular nerve, either in its peripheral distribution in the labyrinth or in the central course of the nerve in the brain. Meniere was the first to associate vertigo with disease of the labyrinth. Previous to his writings, vertigo was believed to be the result of disease of the brain.

Not all diseases of the internal ear, even when the semi-circular canals are involved, produce vertigo. It is only the acute disturbances in the function of the semi-circular canals which give rise to this symptom.

Labyrinth disease as the result of extension from suppuration in the middle ear is now well understood, both as regards the clinical symptoms and the pathological changes in the labyrinth. The most important clinical problem in these cases is in determining when an operation on the labyrinth is called for.

Primary disease of the internal ear, as the result of some general disease is of great interest to the internist.

In the causation of such internal ear disturbances, syphilis takes an important part.

The question of hemorrhage into the labyrinth, especially as the cause of vertigo, is of general interest, because for a long time after the publications of Meniere, such hemorrhages were believed to be the cause for the Meniere-Symptom-Complex. It is apparent now that hemorrhages are a very infrequent cause for the so-called Meniere attacks.

Neuritis of the eighth nerve is a frequent cause of primary involvement of the labyrinth. This neuritis may be the result of the toxic action of certain drugs but is not an infrequent sequel of infectious fevers.

By far the most frequent cause for primary involvement of the labyrinth producing nerve deafness, as well as attacks of vertigo, is a primary degenerative process which is neither the result of syphilis nor the infectious fevers. In these cases the degeneration of the eighth nerve may be the result of focal infection, which is such a frequent cause of neuritis involving other nerves.

Vertigo as the result of disturbance of the vestibular nerve in its central paths can, as a rule, be differentiated clinically from disease in the labyrinth. This diagnosis is made possible by the newer tests of the function of the labyrinth, supplemented by the pointing tests.

EYE-STRAIN AND HIGHER EDUCATION

MARY K. HEARD, B.Ph., M.S., M.D., Iowa City

In this day when the public is discovering a conscience, and the future welfare of the nation is being safeguarded by child labor laws, child welfare stations, baby health contests and many other humanitarian efforts, are we as physicians doing as much as we should to help on this work?

Are we working for school inspection, school nurse, supervised play grounds, as well as looking after the children in the homes where our word is, in a measure, law? In other words are we making the most of this line of preventive medicine, or are we still following after trying to lend first aid, when conditions demand treatment instead?

Our universities, the country over, are doing much to conserve the physical well being of their students and so increase the efficiency of the boys and girls who make up the student body, but in spite of this we are confronted daily by the fact that there are many students who are below average in their work.

For some time past I have felt that something definite should be done to decrease the number of students who through absence from classes and consequent inability to keep up their work, have either been obliged to change their courses or to leave school, or having struggled along to graduation and the much prized degree, find themselves with nervous system so unbalanced that constructive work is impossible, and a long vacation is required before they can take up the work for which they have been fitting themselves.

Does the fault lie with the university or college, or is it further back? Could much of this economic waste be avoided if things were taken in time, which would mean during the first years of school life? Would we have greater mental efficiency if we had done our share in helping to regulate health conditions?

I am not one of those who hold that all the ills we suffer are due to eye-strain, but I am more impressed each year by the increase in number of students, who suffering from eye-strain, are obliged to give up all their plans for a college education and therefore a profession. This forces them into the agricultural or business world without the mental training which the higher education should give.

This is no figment of the imagination, but a story that those of us who are in touch with student life hear all too often, while on the school records "failed" or "unfinished" furnishes no clue as to the cause of these unfinished histories.

When we realize that less than 2 per cent. of all properly examined eyes are found to be normal, the problem may assume a slightly different aspect. People often say to me, "Oh I have absolutely perfect vision;" but if these same people were to have a thorough examination, some refractive error would probably be easily demonstrated. The reason they have had no trouble, is that they have had good health, or have never done any work requiring continued close vision. Under these conditions the muscles of the eye have been able to overcome any defect present, without undue strain.

Eye troubles are in a large measure the result of civilization. Distant vision, with but a small amount of close work, and that not fine work, is the natural condition, in this state when looking at a distant object a normal eye is at rest and parallel rays focus on the retina, giving a clear image. If however, parallel rays do not focus on the retina, we have a condition of ametropia, of which we have three types, hyperopia or far-sight, myopia or near-sight, a disease of civilization, and astigmatism, which may be either hyperopic, myopic or both.

The cause of much of our refractive trouble lies in the fact that the eye at birth is an undeveloped organ, and because of this, most people have some form of hyperopia all through life. A hyperopic eye is too small and parallel rays do not focus on the retina, but behind it, as we say; in reality there is no focus unless accommodation is brought into play even for distant vision, and a far-sighted eye is never at rest except when closed or in sleep, unless there is a ciliary spasm, and this may persist during sleep, giving the eye no rest at all.

With growth the eye may develop into a perfect or emmetropic eye and here with the eye at rest, parallel rays will focus on the retina and a clear image will result. If development stops here, all well and good, but if by reason of accommodative strain during early school days we have an over-development, a long eye is produced, with resultant myopia at about high school age. An increase or a decrease from the normal of one millimeter will cause three dioptres of myopia or hyperopia.

A myopic eye is a long eye and parallel rays will focus in front of the retina and distant vision is indistinct due to diffusion circles, and to decrease these the child will squint, cutting off as much light as possible. Any attempt at accommodation results in a higher degree of myopia. It is only divergent rays from a near point that are brought to a focus on the retina, which accounts for the fact that myopes can see to read or do fine work while unable to see at a distance or join in ordinary games.

As has been said, astigmatism may complicate both hyperopia and myopia, and is caused by the difference in the curvature of the various meridians of the cornea or lens. With this trouble, parallel rays are never brought to a focus at any one point, so an astigmatic person never sees an object in a clear cut manner. If he sees the vertical lines distinctly, the horizontal ones are blurred, or the reverse is true, square objects appear oblong, circles are never perfect, he cannot draw well for he draws the things as he sees them and not as they are. In many cases where the refractive error is small, the ciliary muscle tries to overcome the trouble and as a result, we may have very serious eye-strain, and more asthenopic symptoms are caused by astigmatism than all other troubles put together.

From a series of 1685 cases checked over without selection as to age or occupation in order that we might have an idea of the condition among those with defective vision here in Iowa, I found 301 hyperopic, 1019 had hyperopic astigmatism, 43 were myopes, 198 had myopic astigmatism and only 2 were normal, their eye trouble due to defective teeth. This gives a high percentage of hyperopic trouble and must not be taken as the average, which would be obtained only by a census of all ages as the percentage of certain errors change with age.

With these figures to work from, can one say that all those suffering from hyperopia will have one type of trouble, those from myopia another and those from astigmatism still another, or can we say that a refractive error always means eye-strain?

It would make our work much simpler if we could definitely state that such and such causes will produce certain results, and it would save hours of explanation in the endeavor we may make to show (a) why he should suffer eye-strain when he sees at a great distance, while (b) whose vision for distance is much less does not suffer inconvenience from constant use of his eyes, or why (c), who cannot tell his mother across the street, can yet do the closest work without seeming injury to his eyes, while (d) with only a slight amount of astigmatism can work for short periods, only, without suffering extreme pain or inability to use the eyes at all.

What then, is eye-strain? I might say it can simulate almost anything, for it includes as many symptoms in its list as the diseases which the average patent medicine advertisement promises to cure.

Many of these symptoms seem to have no relation to the eyes. Habit tics and other nervous manifestations, sleeplessness, backaches, headaches, persistent or recurring periodically, as the Sunday headache of the business man or the Saturday headache of the student, dizziness, dyspepsia, nausea, inability to stay awake when reading or studying; or the eye may show signs of strain, with itching, burning and twitching of the lids, redness of the eye-ball, feeling of foreign body in the eye, styes, scales on the margins of the lids with lids gummed together in the mornings. Fortunate is the person whose eye-strain symptoms are referred to the eye and not to some other part of the body for much valuable time is saved and much medicine.

There are cases however, where no symptoms are evident, and not until an ophthalmoscopic examination is made do we discover that the cause of failing vision is due to degenerative changes in the fundi, and all that can be done is to endeavor to prevent further destruction of tissue. This condition is found often in myopic cases, where the only symptom is indistinct distant vision. But why should the amount of close work done by a student cause such a variety of symptoms, not all confined to one patient, and many without any seeming relation to the eye? Simply because these students have not been taught how to take care of themselves, by being properly cared for from early childhood.

Let us follow some of these students as they enter the various colleges connected with the university, and see if there is any explanation for the fact that so many must resort to wearing glasses within a few months after taking up work.

From the time they leave home their surroundings are changed and their mode of life is entirely different. Regularity of habits, except perhaps the attendance of classes, depends entirely on whether they live in a dormitory, or room in one place and board at restaurants or boarding houses, or room and board in the same place as if at home. If they are so unfortunate, as they so consider it, as to be obliged to take military drill or gymnasium work, they let this suffice for all their exercise. From a summer of work intermixed with an abundance of out door life, with little or no close eye work, regularity of meals and an abundance of sleep, they drop into this sedentary student life, breathe preserved, superheated or smoke laden air, indulge in late hours, either in study or wasting time, and a general lowering of physical tone occurs. This effects the entire body and as the eye is doing the most work, it is naturally the first to rebel.

There is no organ that we abuse as we do the eye, when we are tired, instead of really resting, we sit down and read, and if we are comfortably sick, we think it such an excellent time to catch up all the back reading we have been waiting to do.

Our students are in much the condition of a person who has been ill. With lowered resistance they yet have to cope with new studies and new problems and much of the work must be done by artificial light and with books the print of which is a disgrace to our civilization. It is then that our trouble begins and each college has some studies which are especially productive of eye strain, and after years of listening to this same story, it is not difficult to locate the cause if you know the college and year.

In the College of Liberal Arts, German and Greek divide honors because of their eye wracking texts demanding such close attention to distinguish words similar in appearance but wholly different in spelling and meaning. Some of this trouble has been obviated for the German student by having German books printed in English text, due to an investigation by the German Government as to the cause of the increase of myopia among the students of Germany.

The English department with its excessive amount of eye work, political and social science and education which are all eye work. Zoology and its associated sciences with their hours of work at the microscope, or with hand-glass identifying, drawing or labeling innumerable tiny specimens. Applied science and its long hours over a draughting board, which is the Waterloo of many a freshman, or those awful tables of logarithms causing the upper classmen many an eye-ache.

In the Law College, where about eight hours a day must be spent in abstracting cases from probably the poorest set of text-books extant, printed as they are in small type, poorly spaced and abounding in citations and foot-notes in italics or printing equally hard to read, it is no wonder that each year students are obliged to give up law because of eye-strain.

The Colleges of Medicine with their long hours and night work furnish their quota of victims, anatomy, chemistry, bacteriology and pathology with the hours of microscopical work, text-books printed on highly glazed paper, so that the illustrations may be properly placed, the improper placing of seats and tables in relation to light, all add to the trouble.

Dentistry also has its educational stumbling blocks, for the freshman the "carving cusps in

plaster and other materials" which requires very close and accurate work; for the juniors and seniors, the operative work, with its cavity preparations and fillings, working by reflected light and this often not the best. The dentists also suffer from an inflammation of the retina caused by the dazzling from the glare of light on gold. This retinal trouble is not confined alone to the dental students as the glare from unshaded electric light bulbs may cause the same trouble or it may be secondary to eye-strain.

Pharmacy shares a part of its trouble with all students of chemistry, for the irritating fumes, which are so often present because of lack of proper care in the use of hoods, or an improper system of ventilation, may cause a serious inflammation of the conjunctiva in the presence of a slight refractive error, for it is a law of the body that there is always an excessive supply of blood sent to any overly active part. The eyelids are gorged with blood and make an excellent starting point for trouble, add to this late hours and all study by artificial light and we have just cause for trouble. I have by no means placed in this list all the causes of eye-strain from which the student suffers, for his hours of relaxation may be spent in the movies, where the constant motion of the film makes for eye-strain, but enough have been given to show that it is an actual condition.

The question then arises; is there anything in common between German and prosthetic dentistry, law and pharmacy? There surely is and it can all be summed up in a few words, a refractive error large or small, too close work and lowered resistance.

In hyperopia and astigmatism, the strain of convergence hour after hour causes the ciliary muscle, or muscle of accommodation, and the external muscles of the eye to become tired and they relax, causing blurred vision, or by overaction are thrown into a spasm which may cause a hyperope to become artificially myopic, or the external muscles may not be able to hold the eyes in a state of parallelism or convergence and we have muscle imbalance, with double vision as one result and various nervous symptoms following. In myopia, which is one of the most insideous things with which we have to deal, the long periods of convergence tend to increase the trouble and so cause a diseased condition which may result in total blindness unless the student is taken away from all close work and sent into the country where the distant vision will be used rather than the near vision of the town.

Those of us who meet these students daily feel that it is only as we bring our problems to you and ask your co-operation, that conditions as they now exist can be changed, for this is not our neighbor's problem, it is ours.

First of all we must begin in the home and educate the parents, so that they will help in establishing systematic school inspection, with sufficient follow-up work by physicians, teachers and nurses to keep ahead of conditions which may develop, and, uncared for, handicap for life one whose capacity for work is limited by some defect caused by lack of knowledge or care.

Every child should have a thorough physical examination before entering school. This would mean a careful examination of eyes, ears, nose, throat and teeth, and in the examination of the eyes I do not mean just the chart test for the eyes, but a thorough ophthalmoscopic examination, which would reveal opacities of the cornea, cataracts, astigmatism, hyperopia or myopia.

How many children who, according to their parents, have "caught cold" in their eyes with the resultant tearing, photophobia and pain, have been allowed to stay in a dark corner until the eyes got well and then have been sent back to school. Later on, having finished high school, they enter college, then with extra work under artificial light they find they have eye trouble, an examination reveals the fact that one eye is practically useless for close work and they learn for the first time that they are doing all their work with one eye and that not a good one. The damage was done in those early years when instead of having a cold in the eyes, which is the home diagnosis for an infective conjunctivitis, they had phlyctenular conjunctivitis with ulcers of the cornea causing irregular astigmatism and blurred vision. The long years of disuse, during the formative period of life, have produced an amblyopic eye, and the best possible correction with glasses will give but partial vision.

Other causes, such as squint, may produce a similar result and children so handicapped should be properly taught throughout the grades, after having the eyes carefully examined and the proper treatment carried out.

In the present crisis many an able bodied man is humiliated by being rejected because of defective vision in one eye, which might have been prevented if the eyes had been properly cared for during childhood.

Having looked after the child's physical well being—and this should include the subject of food—we must next look after the surroundings in which he spends so much of his time and the tools with which he works. This will require a

readjustment as to the location of many of our school buildings, which are too often built on ground not suited for the purpose in any way as to light, ventilation or sanitation, three things absolutely necessary to the well-being of the hundreds of children who are to spend the formative period of life within these buildings.

Having located our building well, let us see that it is properly ventilated and lighted. Next to ventilation I consider this question of lighting one of the most important with which we have to deal, for poor lighting reduces acuity of vision as well as reducing comfort and efficiency. Good lighting does not mean overlighting and the best light is not the one which gives the greatest acuity of vision for a short time but one which causes the least loss of efficiency for long periods of work. Too bright a light causes a contracted pupil which if continued for long periods, causes marked nervous symptoms or loss of power to react to light or dark, and eventually we have the retina affected. A flickering light causes alternate dilation, and contraction of the pupil, making clear vision impossible. Day light is the most satisfactory of all lights for through all the ages it is the one the eye has been accustomed to work by.

Artificial light contains a large portion of violet and ultra violet rays which often act as irritant to the eye as they are not necessary for vision. If these lights are so used as to give us a diffuse light as sunlight, so that the field of vision will be uniformly illuminated with no spot lights and no sharp shadows, the result is good.

Rooms should be so lighted that in an ordinary class room the illumination will not fall off from 100 per cent. near the windows to 25 per cent. on the opposite side of the room. Ceilings and walls should be tinted but as near white as possible and yet enough to prevent glare.

Recitation rooms should be furnished with light colored boards and colored crayons used because of the marked cutting down of light when blackboards are used. If blackboards are used, shades drawn over them when not in use, will make a marked difference in the light in the room.

Having cared for the proper construction of the building itself, we must furnish the right kind of seats and desks, in order that we may prevent the further increase in spinal curvatures found in examination to be present in so many of our high schools, in association with wry neck and uneven shoulders.

Our biggest problem is one on which but little has been done. I refer to better text and reference books. We have accepted for so long books printed on glazed paper in too small type, with words and letters crowded together in lines too long for comfort that it is difficult to arouse people to the importance of this matter.*

A mat paper should be used, in fact should be insisted on by all educators except where illustrations make the glazed paper a necessity. A larger type in most texts and especially is this true in the books used in our primary schools, the letters should also have better spacing in words and the lines should not be crowded together, for these things are most productive of trouble and a very small refractive error may by constant strain in the endeavor a child makes to see distinctly, cause serious trouble in time. This strain is also increased by the length of line on a page, for an eye does not tire as easily in reading a four inch line as it does an eight inch line. The short excursion of the eye-ball is accomplished more easily and we read a page more quickly, than the same amount of text with longer lines.

German works should be printed in English text if used for text-books, for the German text is most productive of eye-strain.

Blackboard work in the lower grades should not be done with small figures or letters, four inch letters is not a bad minimum to make, for if there are any myopic children in the class they will not overtax their eyes in an attempt to see if the letters are of that size, provided of course that they are wearing their proper correction in glasses, unless they have a very high error.

Having supplied the proper text-books it might not be a waste of time if we taught children how to study. Conservation and efficiency are watch words today and I know of no place where as much can be accomplished as in this one field.

Teach them that studying does not mean the reading of page after page without resting the eyes. Read a page, paragraph, or other connected portion and then digest it letting the eyes rest by either closing them or looking at a distance, nearly one-half of the eye-strain would be relieved if this practice were made universal. Teach them to do the work requiring the greatest concentration by day light, when they are not tired with a day's work.

Divide the reading and the written work and see that every child knows how to play. This may sound strange to you as you think of the children you know, with whom it is all play, but our reform schools and penitentiaries are holding

*See Editorial Review, Dr. Arthur E. Bostwicks, "Books for Tired Eyes," Journal American Medical Association, Chicago, March 24, 1917, p. 915.

within their walls today, many a boy who would not be there if the things I am urging now had been done for him. This I attempted to bring before you two years ago in discussing the effect defective eye-sight has on the play-life and so the normal development of every child.

The world is filled today with men and women who are considered inefficient but their problem has been taken up by efficiency experts who tell us that this great economic loss can be overcome by proper treatment. Now, this means a shifting of square pegs from round holes but for tomorrow it means that the childhood of this generation be conserved by every means possible.

It may be that the present war will show us our true condition just as the Boer war showed to England the physical and mental deterioration which had resulted from her lack of care of the school child, and out of which has come her wonderful system of health regulations, even going so far as to furnish pre-natal care to the mother in case of need, and this all under the supervision of the school boards.

When we reach the point of efficiency that has been reached by England, we will have a national law not only requiring birth registration but also the medical inspection of every child before it is admitted to any school, with certificate showing physical defects which must be remedied if possible, or the child guarded from overtaxing the weak part. A record of the refractive error should also be placed on this certificate, and the eyes cared for according to the directions of the physician. This may require only treatment or it may mean the wearing of glasses. In this way the eyes will be given an opportunity to develop normally and a small refractive error will not become a large one because of eye-strain.

If these things are done for the children now entering school many a child will be saved from years of ill-health and discomfort, and it is only as busy men and women, with knowledge, are willing to devote a little of their time to these big problems for little people, that the next generation of college students will come up better fitted to take up the work of higher education and not be required to spend a large portion of their time in keeping themselves in repair.

I hope I have made it clear why something more in this line of preventive medicine should be done as well as in the prevention of tuberculosis, and the work of the physician must be a failure unless supported and supplemented by the educated men and women of this country.

REVIEW OF RECENT LITERATURE ON CONGENITAL SYPHILIS*

F. S. Clarke, M.D., Omaha, Nebraska

Veeder and Jeans divide hereditary syphilis into fetal, infantile, late or tardy and latent types. Fetal: signs of syphilis at birth. Infantile: those types in which syphilis develops in first year of life. Latent: those types only, which have no syphilitic manifestations, but in which there is a positive Wassermann.

In a paper by Heiman, the recent progress in syphilis is stated in a most practical and concise way. The old Colles law which was that the apparently healthy mother of a syphilitic child could not become infected with the disease; and the Profeta law, that a healthy child could not become infected by a syphilitic mother, have both fallen. It is now recognized that no immunity to syphilis exists. So long as Treponema pallida remain in the body, no superinfection can occur. As soon as the organisms have been destroyed, reinfection is possible.

The source of congenital syphilis is invariably maternal. The infection takes place through the placenta. If the infection occurs early in fetal life, the fetus will die, become macerated and be discharged before or at term, with or without evidences of syphilis. Much depends on the type and stage of the mother's syphilis. Thus three factors determine the form congenital syphilis will assume. (1) The month in fetal life in which infection occurs. (2) The stage of maternal syphilis, during which maternal transmission of blood through the placenta, takes place. (3) The influence of therapy on the mother during or prior to her pregnancy.

Satisfactory treatment of the mother may prevent fetal infection. The older the mother's syphilis, the less likelihood of transmission to the child. To summarize: Congenital syphilis is syphilis acquired during fetal life through the placenta, which after becoming infected, plays the part of the primary lesion. From this point the umbilical vein conveys the spirochetes to the fetus, the liver being the first organ involved. Thence the spirochetes are disseminated throughout the fetus. Here all differences between congenital and acquired syphilis cease to exist. Subject to the month of fetal infection and to the age of the mother's syphilis, the infant presents secondary, latent or tertiary lesions. The tertiary stage may be protracted for years. Tertiary

*Read at the Nebraska-Iowa Pediatric Society, Omaha, April 17, 1917.

changes in adolescent or late in adult life may be the first evidences of a congenital syphilis.

Symptoms—Veeder and Jeans in a study of 100 cases of the infantile type regard the shiny, glistening skin on the palms of the hands and the soles of the feet as the most characteristic skin manifestation. Rhinitis was the most frequent early symptom. It occurred as often as the cutaneous lesion but not always associated with the skin lesion. An enlarged spleen was a frequent accompaniment. Failure to gain in weight they regard as one of the most constant symptoms present. Epiphysitis was present in fourteen cases, absent in eighty-six. La Fetra emphasizes the fallacy of Hutchinson's teeth. In a series of cases Hutchinson's triad *i. e.*, teeth defect, keratitis and central deafness, was not met with. Enlargement of the epitrochlear glands was the most constant symptom noted in his series.

Heiman divides all cases of congenital syphilis into six groups. (1) Patients born with cutaneous and marked systemic evidences. (2) Patients born with cutaneous and slight systemic evidences. (3) Patients born with cutaneous lseions alone and later manifest systemic evidences. (4) Patients born apparently healthy develop syphilis within a year. (5) Patients born apparently healthy and develop evidences in two to seven years. (6) Patients born apparently healthy and acquiring syphilis after seventh year. The last two types or grades of congenital syphilis are tertiary in type, acting as does late syphilis in the acquired form. He points out the fact that a saddle nose possesses no value as a symptom till well on in the second year. All infants are more or less wanting in a nasal bridge.

Stoll summarizes his observations as follows: When pregnancy results in a syphilitic, one of several things may happen: (1) The fetus dies and abortion or still-birth results. This is usually attributed to a uterine malposition. (2) The fetus does not die but is expelled prematurely. (3) The child may present (a) obvious evidence at birth or within a few weeks or (b) appear healthy for several years and then develop some syphilitic manifestations as keratitis, or a bone lesion. (4) Occasionally a healthy child is born to syphilitic parents whose disease is in a latent condition. (5) The child may exhibit certain stigmata, the result of protoplasmic changes, even when no infection occurs. The common distrophies are high narrow palate, hare lip, scaphoid scapulæ, short arms, etc. (6) We should suspect the possibility of hereditary syphilis in individuals whose chief characteristic is a constitutional inferiority, as children they "took" everything and were always very ill. They were "hard to raise." They were nervous and irritable and complained of headaches frequently.

Lloyd Thompson in his new book cites a case of syphilis transmitted to the third generation. The first born of a young couple was diagnosed syphilis clinically by two physicians, and by a positive Wassermann, and later died in spite of treatment. Both parents denied syphilitic infection but submitted to Wassermanns. The father's blood was repeatedly negative Wassermann. The mother's positive. The mother, in order to clear herself, brought her older sister and younger brother. Both had positive Wassermanns. Then the children brought their father for a Wassermann which was negative. Soon after the man's wife, grandmother of the child first seen, died from what was diagnosed a gumma of the brain. Blood collected less than twenty minutes after death, gave a positive Wassermann.

Wassermann—Wise comments on the Wassermann in congenital syphilis, stating that it is much harder to get a negative Wassermann after intensive treatment in congenital syphilis than in acquired.

La Fetra says that the Wassermann when made by a competent man can be relied on absolutely. Rarely does it fail to coincide with the physical findings. The more frequently the Wassermann is made especially in our nervous and mental cases, the greater number of correct diagnosis we will make.

Ravaut believes that the Wassermann depends for its interpretation, somewhat on the personal equation. He sent three identical specimens of blood to three different laboratories. Sixty-one per cent. agreed, 36 per cent. varied from doubtful to positive or negative, 3 per cent. differed absolutely. It was noticed that the tests conflicted less in those who were actually syphilitic than in those who were non-syphilitic. He asserts that the Wassermann is not infallible. He has seen positive reactions exist for years in spite of vigorous treatment, and no other symptoms of syphilis develop. He asserts that there are various conditions that may create a false positive reaction in non-syphilitic serum. For example—fourteen non-syphilitic persons previously negative to the Wassermann were experimentally injected with arsenobenzol, after which 35 per cent. gave a positive Wassermann. He believes that not even a positive Wassermann can always be accepted unless it be confirmed by other symptoms or evidence.

Jeans states that the Wassermann is positive in certain cases of scarlet fever, leprosy, carcinoma, scleroderma and malaria. Of eighty-five

mothers of syphilitic children, 86 per cent. gave positive Wassermann. Only six of the remaining negative Wassermann gave no history of infection or previous treatment. Five of these six were examined at least ten years after the birth of their last syphilitic children. This would indicate in these cases that the infection is probably dying out.

Kolmer and Schamburg claim that the Wassermann is not sensitive enough.

Mueller never obtained a positive spinal Wassermann in cases where blood Wassermann was negative.

Towle in reviewing the work done by different men on the Wassermann, seems to convey the impression that (1) a negative Wassermann does not mean that syphilis is not present. (2) A positive Wassermann, unless accompanied by clinical symptoms, should not lead one to make a diagnosis of syphilis. (3) Wassermann reaction is after all only one of the symptoms of syphilis. (4) That the interpretation of the serum test depends to a considerable degree on the person making the test.

Prognosis—Veeder and Jeans cite figures which show a most discouraging outlook as to recovery. They note the rapid disappearance of cutaneous lesions, rhinitis and other symptoms by injections of neosalvarsan but carefully add that the administration of mercury, both by inunction and internally, should follow the neosalvarsan. The importance of mother's milk as a food is emphasized.

Mueller comments on the difficulty in treating cases showing evidences of mental defectiveness and states that the prognosis of these cases is especially bad.

Finkelstein says that the unfavorable opinion generally held with regard to the fate of congenital syphilitics is not confirmed by statistical observation and study. The number of weaklings and anemics is no greater than among those free of syphilis. A similar optimistic view is held by Baginsky, Huebner and others. Finkelstein also claims that breast milk is not an essential in the prognosis of a given case. Cases do get well when artificially fed, other factors being favorable.

The mortality in congenital syphilis is highest in the first year and decreases from month to month in first twelve months. Kassowitz found that 34 per cent. of all children with congenital syphilis died in the first few months of life. A foundling asylum at Budapest, of one hundred and seventy-eight, eighty died of congenital syphilis, 46 per cent. The unfavorable environment of these children is in part to blame for the high mortality.

Thompson regards the occurrence of the bullous syphiloderm in congenital syphilis soon after birth as of especial bad omen. Coutts regards the jaundice occurring in congenital syphilis, an unfavorable prognostic symptom.

Sylvester does not agree with Veeder and Jeans as to the rather pessimistic prognosis held forth in their paper. His immediate death rate of seventeen patients treated with neosalvarsan was four; the ultimate death rate none. He contrasts this with a series of twenty consecutive cases treated before the advent of neosalvarsan. Of these twenty cases sixteen died.

Prophylaxis—Thompson regards it as quite possible that a syphilitic mother who has become pregnant may give birth to a healthy child if she will submit to proper treatment during her pregnancy. In order to accomplish this he advises especially the administration of salvarsan during the time she is carrying her child. Careful urinary examination should be carried out.

Treatment—Eric Mueller of Berlin has prolonged his treatment of syphilis and states that in his opinion congenital syphilis is curable providing that the treatment is prolonged and sufficiently intensive. Mueller's plan consists of either two calomel injections with eight neosalvarsan injections or of a six weeks inunction course with eight neosalvarsan injections. Both courses extend over a period of about three months. After such a three month's course there is a rest of three months. Then a second similar course is given followed by a third course after a rest of three months. After the second year, calomel injections are followed by inunctions of mercury. The entire period of treatment requires 1¼ to 1½ years, consisting of three courses each of about three months in length. Careful watch is kept on the urine throughout the treatment. After the final three months course, he administers a provocative neosalvarsan injection. The Wassermann is taken on the second and ninth day afterward. Upon this test depends the question of further treatment.

Sylvester outlines the treatment of congenital syphilitics in Boston. In the past two years a few over one hundred patients have been treated. All who have been treated for over six months seem to be as healthy as the average baby. Neosalvarsan is given intravenously every seven days until all evidences of syphilis have disappeared except the Wassermann. It is given in 5 c.c. of freshly distilled water. The maximum dose is 0.4 grams in babies 1½ years of age or over. At one month or under, 0.1 gram is

given; from one month to six months, 0.2 grams. Six months to one year, 0.25 grams, and from 1 to 1½ years, 0.25 to 0.35 grams. All patients were also given mercury either by mouth, by inunction or in combination. The favorite form of giving mercury by mouth was grey powder. Some of his conclusions regarding treatment are (1) Fetal syphilis should be treated by treating the pregnant mother vigorously. (2) Neosalvarsan is probably the best arsenical and should be used if immediate intense action is desired. Mercury should be used in conjunction with arsenic and should be continued a long time after all symptoms have disappeared. (4) Treatment should be persisted in for at least two years. After six months without treatment, a Wassermann should be taken. A negative Wassermann at this time is evidence of a cure.

THE INTESTINAL ORIGIN OF EPILEPSY WITH REPORT OF CASE

L. A. BALDWIN, M.D., Riverton

The following case of epilepsy may be of interest as showing first, the probable traumatic origin of ptosis of the colon and cæcum; next, the relation of the resulting constipation to the epilepsy and, third, the cure resulting from the Reed method of treatment.

The patient, male, age twenty-one, came to me in February, 1913, with the history of a distinct attack of grand mal. His family history was excellent being free not only from epilepsy but all other transmissable taint. At the age of fourteen, the patient had been kicked in the abdomen by both feet of a horse with such force as to make him unconscious. From that time on he was bothered with increasing constipation. At sixteen he had pneumonia with resulting empyema from which he recovered after a drainage operation. In October preceding his first epileptic seizure, he had suppurative appendicitis for which an operation was done with successful drainage. The first seizure came on without warning and without any cause being assigned by the patient or his family. It was noted, however, that subsequent attacks always came on in connection with acute attacks of constipation. The seizures then assumed both the grand mal and petit mal type. The minor attacks were very frequent. The major attacks occurred with increasing frequency from six months to two weeks and even as often as three in one week.

The case was referred to Dr. Charles A. L. Reed, Cincinnati, December 2, 1914. Dr. Reed reported that the physical examination was negative except as to the abdomen which he found with relaxed walls, a tendency to distension below the navel and, with the patient in the upright position, all resonance on percussion was far down in the lower zone. There was marked flattening of the abdominal wall at each linea semilunaris. These evidences of ptosis were confirmed by x-ray examination by Dr. Lange, showing the cæcum and transverse colon low in the pelvis with colonic constipation of more than sixty hours. There was marked general acidosis with a persistent trace of albumin in the urine. The saliva was acid.

The operation was done December 4, 1914, by Dr. Reed who reported that "on opening the lower zone of the abdomen by an incision in the median line the x-ray findings were confirmed. In addition, the cæcum was found to be large, flabby and hypermobile, while the transverse colon was pale, thin walled and atrophic. These conditions were so pronounced that the functional restoration of the large bowel was deemed improbable and the operation of parietal implantation of the colon was abandoned for that of colectomy. It was resolved to do this operation in two stages, the first being that of ileo-sigmoidostomy. This was done, the points of anastamosis being respectively about eight inches from the end of the ileum and the lower arch of the sigmoid. A valve to prevent reflux loading of the colon was made by plication near the juncture of the descending colon with the sigmoid."

The case made a prompt convalescence and was home two weeks after the operation. The bowels became active from the date of operation and have continued so to the present time. The petit mal ceased from the date when normal drainage of the intestine was established. He had one major attack about thirty days later and another within the next month. They were both milder than those experienced before operation. From the date of the second attack, to the present a period of more than two years, there has not been the slightest evidence of either a minor or major seizure—not even a sensation. In the meantime the patient, with increased weight, has been actively engaged in his occupation of a farmer.

February 28, 1917, the patient was seized with violent symptoms of acute obstruction of the bowels. This was overcome with extreme difficulty and only with remaining persistent tenderness in the lower part of the abdomen. It was assumed that the obstruction was probably due to filling of the colon with obstipation at the anastomotic orifice. He returned to Dr. Reed who in his report to me states that he made an x-ray study of the case. The plates (by Dr. J. P. Cooper) show that the barium was all in the sigmoid and rectum eight hours after ingestion while some gas at both the hepatic and splenic flexures were the only indications of the location of the colon. There was complete intestinal clearance in twenty-four hours. These plates were construed as indicating that the colon was so loaded with fecal matter above the point of anastomosis that the barium could not regurgitate into it.

The second operation was done at the Sterling Hospital, Cincinnati, March 8, 1917. Dr. Reed's report is as follows:

"Exploratory incision was made in the left lower quadrant with the object of doing my new operation of colonic exclusion. On opening the abdomen, however, it was found that the previous valve arrangement in the upper sigmoid had worked perfectly and that there was no fecal matter whatever in the colon which had shrunken to almost cord-like dimension. Further exploration revealed that the acute obstruction had been due to an intussusception from which recovery had been incomplete. In other words the infolding of the gut had become chronic and fixed by adhesions between the approximated and infolded surfaces. These conditions were so firm that the intussusception could not be reduced and as it caused material narrowing of the lumen of the ileum, about three inches was resected with an end to end anastomosis."

The case made an uninterrupted recovery and returned to his home about three weeks after the operation. There has been no recurrence of the epilepsy.

A RADICAL TREATMENT FOR ACUTE TONSILLITIS

I. S. Buzard, M.D., Waterloo

I expect to be severely criticised for the matter I am presenting herewith; however, I am willing to be the recipient of such criticism providing the subject receives the consideration which I and every one is well aware it deserves.

One year ago while discussing the subject with one of the most prominent rhinologists in the United States, I detailed the following case and listened to the most unqualified condemnation of what I had done.

Case 1. A young man twenty years old, negative family history, had suffered all his life with repeated attacks of follicular tonsillitis. He came to my office and made an appointment to have the tonsils enucleated. At the appointed time he appeared but was suffering a very severe attack of follicular tonsillitis at that time. His temperature was 104, had severe headache, backache, general boneache, chilly, sensative, etc., and was really very sick, and the tonsils were covered all over with spots of white exudate. I looked him over carefully and as all of his troubles were undoubtedly due to his tonsils, we decided to remove the tonsils at once, which we did with local anesthesia. The case made the following progress: Within three hours the temperature had dropped to normal, the untoward symptoms had disappeared, and all that remained was the sore throat from the tonsillectomy. The subsequent course of the case was even better than tonsillectomies done during the interval period.

Since doing this case, which was over a year ago, I have operated twelve cases under very similar conditions and have arrived at the conclusion that enucleation is the treatment par excellance for cases of acute tonsillitis, as each and every case has had the same happy ending as the case detailed above.

Theoretically I realize the dangers that one would encounter in such radical procedure, of which cervical cellulitis, erysipelatous inflammation and abscess would probably be most conspicuous, and I also realize that a partial tonsillectomy in such cases might give rise to unpleasant consequences; however, there is no call for doing a partial tonsillectomy at this day.

The most potent objection against this radical procedure would probably be that the operation could just as well be postponed to an interval period, but who knows at what time a distant infection is going to be lighted up, and again a great majority will consent to this procedure at the time of attack whilst if it were postponed to an interval, in a large majority of cases it would never be done.

The whole thing resolves itself to this simple question: Is it a safe and proper procedure? If it is safe, there is no question about its being proper.

I request that physicians who try this method out, detail their cases to me as I want to publish a consensus of opinion and results when sufficient reports are in.

RECENT IDEAS OF IRIDOCYCLITIS WITH SPECIAL REFERENCES TO FOCAL INFECTION WITH REPORT OF SEVERAL CASES*

James E. Reeder, M.D., Sioux City

My motive in presenting this subject before you is to bring forth the ideas of the leading ophthalmologists, relative to the dissatisfaction there is in the diagnosis and treatment of that most unpleasant disease of all ocular affections, namely iridocyclitis.

At the last meeting of the American Academy of Ophthalmology and Oto-laryngology, Reber presented a series of cases which brought out an interesting discussion. Comparatively recent, Brown and Nadler of Chicago presented the results of experimental iridocyclitis in rabbits.

There has been four or five such articles within the past year which has opened up a large field heretofore unknown in ophthalmology and bids fair to revolutionize our long set ideas and classification of iridocyclitis.

Brown was able to produce iridocyclitis in a rabbit by the injection of streptococci procured

*Read before the Woodbury County Medical Society, November 23, 1916.

from a patient suffering from iritis, presumably due to an embolic process from an infected tear sac. He reports as follows: "If one eye of each of a series of rabbits is injured by intra-ocular injection of minute amounts of dead bacteria and then after the eyes have healed and all the active inflammation has disappeared, an injection of living bacteria is given, there follows an inflammation of a larger proportion of the injured eyes than the control eyes."

Positive results have been obtained with both staphylococcus and streptococcus. Iritis has been produced by the injection of b. mucosus capsulatis b. pyocamus and gonococcus. This has been demonstrated by a number of authorities, and goes to show that a number of intraocular diseases get their start from some infected emboli.

Perhaps the most striking feature which these recent studies will bring forth, will be the rearranging and classification of the different types of iridocyclitis, due to the fact, for obvious reasons the bacteriology has not been studied as well as the external appendages, as the lids, conjunctiva and cornea.

According to all our standard texts, syphilis claims 50 to 60 per cent. of all uveitis; the remaining largely by rheumatism and gonorrhea. Tuberculosis and auto intoxication play a minor part.

In the 100 cases reported by Brown, only 23 per cent. were due to syphilis, while dental infection comes along demanding a position of 18 per cent.; tonsillar infection 16 per cent.; gonococcus 9 per cent.; t.b. 8 per cent.; sinus infection 3 per cent.; non-venereal genito-urinary 3 per cent.; other infections 2 per cent.; no cause 1 per cent.; combined infection 17 per cent.

If you note, the term rheumatism isn't even mentioned, and with my own personal experience with Brown, I know he is very firm in his belief that there is not an iritis due to the so-called auto intoxication.

This makes it quite evident that in the future, diseases of the eye must be approached from different angles than in the past, and instead of 50 to 60 per cent. receiving specific treatment, it will be reduced to 25 per cent., while the sinuses, teeth and tonsils will be considered by the radiographer, rhinologist and bacteriologist. And in those cases where no focus of infection is found, we must depend on the serologist.

To recapitulate, the following conclusions are shown:

1. The search for a possible focus from which infection is transferred to the ocular structures. Into this group we have alveolar abscesses, infected tonsils, accessory sinus diseases or collections of pus elsewhere in the body.

2. A localized infection in the ocular structures as a part of a generalized systemic process. Into this group falls syphilis, gonorrhea, tuberculosis, streptococcus, pneumococcus, staphylococcus and influenza.

It must be remembered that infections may be and frequently are not due to one single organism but to two or even more. It also must be borne in mind that a syphilitic may have a non-syphilitic iritis.

I recall a case to illustrate this which was very interesting. A negress, age thirty-two, who had iridoplasticyclitis; vision reduced to light perception with the development of secondary glaucoma, who had syphilis, tuberculosis and gonorrhea. A trephine was performed on each eye for the reduction of tension but with no improvement of vision, nor after the thorough treatment of her syphilis, gonorrhea or tuberculosis was there any improvement, but a thorough cleaning house of her mouth to our surprise, the iritis proceeded to quiet down with an improvement of vision to about one-half of normal.

In the first group it is quite evident what should be done, namely remove the source of infection with general appropriate treatment. The treatment of the second group has a phase upon which the profession is yet divided and a large field for research is still open. By this I refer to the vaccine treatment, outside of the Wassermann. The complement fixation tests are not very reliable, but when positive, of utmost value.

My experience is limited with vaccine therapy in iritis and it keeps one busy in carrying out the well tried and well advocated routine treatment, but I am convinced the future has a great deal in store for us in the nature of vaccine therapy, although at present it seems to be a dead issue, but I believe this reaction can be laid at the door of the proprietary evil which in the beginning the stock vaccines were exploited for commercial reasons, to the general dissatisfaction of the profession. I have a few cases I wish to report relative to the preceding.

Case 1. October 13, 1915, Mr. I. W. S., age sixty-seven, occupation farmer. History—Blind for past two years with a gradual diminution of vision for period of two years previous to total blindness. Has always enjoyed good health. Blood-pressure 150; urine negative; inspection showed externals O.K.; both eyes, cornea clear, anterior chamber normal depth, irides color blue, pupils 4 m.m. react well to light, consensual reaction normal; perception good; media cannot be seen due to the fact that the lens are cataractis. Diagnosis—Mature cataract both

eyes. October 15, 1915, combined extraction right eye under cocaine. October 19, 1915, wound healed, eye quiet. November 8, 1915, left eye combined extraction under cocaine. December 3, 1915, decision of secondary cataract left eye. December 10, 1915, patient developed severe iritis, right eye, which did not respond to general treatment such as sodium salicylate internally and free elimination, locally atropin, dionin, heat. Upon inspection of mouth, it was noted a number of bad teeth present. A dentist was called in who advised complete removal of all diseased teeth which was accordingly done. Within forty-eight hours after extraction, pain had entirely disappeared and in a week's time the eye had undergone complete resolution. At present, vision right eye 20/30, left 20/20 with correction.

Case 2. September 14, 1915, Mr. J. R. P., occupation, minister. History—Blurring of vision on near work with more or less sensitiveness of right eye past eight months. Has always enjoyed good health except in childhood had a severe attack of measles which left a chronic discharging ear which flares up at intervals, giving some trouble. Vision right eye 20/30; left eye 20/20, with correction right 20/20, left 20/15. Right eye—Slight conjunctival injection with quite a marked ciliary injection. Left eye negative. After proper treatment for iritis with absolute rest of eyes and constant wear of his correction, the trouble quieted down for over a period of six weeks, when the right eye again flared up. An x-ray of several of his crowned teeth showed apical abscesses. He was advised to consult his dentist who removed the diseased teeth, but the iritis quieted down very little. On inspection of tonsils they were found diseased but very small. It was deemed advisable to remove them on account of the iritis. Within two weeks after enucleation of tonsils, right eye had undergone complete resolution. Patient has been able to dispense with his glasses and at this date has had no recurrence of trouble. Vision right eye 20/20, left 20/15 without correction.

Case 3. June 28, 1915, Miss S. H., age twenty-eight, occupation, music teacher. History—Family history negative. Patient's personal history of no importance with the exception of several attacks of appendicitis, which she has had at intervals over a period of eighteen months.

P. C. patient states she tires on reading, frequently develops a headache, occipital in character, after giving two or three lessons. Vision right eye 20/20-3, left 20/20-3, with —0.25 cyl. axis 180 both eyes equals 20/20. This Rx was given which apparently cleared up all symptoms given. November 2, 1915, patient presented herself complaining that both eyes had been sore and red and very sensitive to light for past three or four days and she was unable to do her work. Vision 20/40 both eyes. Inspection showed marked photophobia; both conjunctival and ciliary injection marked; cornea clear both eyes, irides appeared boggy and swollen. Pupils 4 m.m. both eyes, reacted slow to light. Diagnosis—Acute iritis both eyes. No history of any specific infection, but an x-ray shows an abscess of one of the teeth which was promptly extracted. No relief of iritis. Under absolute rest, free elimination and sod. sal. internally, atropin, dionin and heat locally, trouble quieted down. In a course of about a month, eyes flared up again. Coincident with this flare up, she developed an acute appendiceal attack. She was advised by her physician to have it removed, and owing to the fact that the eyes flared up along with the appendicitis, I also deemed it advisable to have it removed, which was promptly done. At the end of ten days, iritis has quieted down, and at the present date patient has increased in weight and has had no further recurrence of iritis and has been able to dispense with her correction.

A CASE OF SPOROTRICHOSIS FROM NORTHERN LEE COUNTY

C. F. Wahrer, M.D., Ft. Madison

I desire even after a notice of only four days of this meeting, to report a case of unusual occurrence not only in our vicinity, but rare any place.

Very little was known of this affection until Hamburger wrote his first paper in the Journal of the American Medical Association, November 2, 1912. Since then cases were reported by McGavoc of Richmond, Virginia, in the Old Dominion Journal, one by B. F. Davis of Chicago reported in Journal of Surgery, Gynecology and Obstetrics, and more recently a number by Newman, Rhamey, Carey, Sutton, Adams, Ravogli, Cooke, Miller, Wilder and McCullough and Drs. Dermody and McMartin.

In Hamburger's paper alluded to above, over fifty in all, those whose origin of affection were given, thirty-eight showed that the entrance of the trouble was on some place of the hand or forearm. I omitted to mention that the time of these observations dates back only about seventeen years.

The geographic distribution of nearly all these cases extends only to the territory in the Mississippi Valley, giving a total of fifty-eight cases.

The more recent observers are Dermody and McMartin of Omaha, and Richard L. Sutton, of Kansas City, by the way, one of the best dermatologists in the Mississippi Valley.

Owing to a general resemblance to furunculosis and syphilis and blastomycosis, most of the cases coming to the ordinary observer are not diagnosed, and are usually treated as a furunculosis, or some kind of infection following a wound. Based upon such a diagnosis, even in the hands of ex-

*Read before the Lee County Medical Society, Keokuk, May 5, 1916.

cellent physicians and surgeons where all the best technic of infection treatment is used, all of these cases are doomed to failure, and often last not only weeks, but many months and years until the proper diagnosis is made, and treatment accordingly which is followed by immediate amelioration and recovery in a few weeks at most.

And owing to the fact that little has been written on this affection, it is not to be wondered that diagnosis is often not made, especially when we know that even many good medical men do not know that such a disease exists.

During the early part of the year 1914 up to October, Sutton has added five new clinical cases of his own and such as were referred to him by physicians from his and contiguous states.

I think when one hears of the existence of sporotrichosis, and once sees a description of a typical case, the diagnosis thereafter will be comparatively easy.

Description—When fully developed we find usually on the hand or forearm, generally the latter, well defined oval or round tumors from one to four cm in diameter, submerged under the skin with slight elevation above the surface. The edges are hard, later the center breaks down, softens, but the overlying skin remains unbroken, unless incised or other force has been applied.

The color is deep red to purple, border often indented, and mass usually painless. Arm is usually swollen from additional infection, but clear unaffected portions show plainly. The epitrochlear lymphnodes often become infected and then are tender or painful.

The usual modes of treatment are as before mentioned, always doomed to failure. Those reported by the writers I have cited, show that nearly all the doctors followed the same treatment. Most of them apply antiseptics, carbolic acid, tricresols or their derivatives, incisions and evacuation of contents, with iodin, mercury, some making incisions of a curvilinear type taking several papules in the course of one incision, dressings wet and dry, with powders or ointments and so on down the line.

If the patient finally becomes impatient and demands a change or consultation, and the consultant is fortunate to make a diagnosis, and institutes proper treatment, all will be well in a short time.

In the literature at my command, the essayists all with little variations detailed the same treatments as I gave in synopsis above.

Sutton who gives an analysis of six cases in detail with graphic descriptions, will be the best to quote. I shall however give but one case aside from my own.

The one I shall quote from Sutton is a typical case and will cover most of the others and incidentally very similar to mine.

Mr. E. B. A., male, grocer clerk, age twenty-six, care Dr. Smith of Lyndon, Kansas. Early in September, 1913, patient got a slight puncture from a fine splinter of wood on the dorsal surface of the hand near base of left thumb. A week later a small ulcer began to develop in the site of the wound. The lesion became tender and painful and quite an amount of a grayish-yellow pus began to discharge. The ulcerated surface increased in size until it was as large as 3 cm. in diameter; September 20, the family physician was consulted, who made a tentative diagnosis of furunculosis. Flax seed and bread poultices were ordered, later ointments, dusting powders and caustics were applied.

October 1, a hard, indurated nodule appeared on the wrist near the original sore, slowly increasing to the size of an ordinary hazelnut. A tiny fistulous opening formed near the summit of the lesion and discharged a viscid, grayish yellow pus. In the course of a few days the tumor broke down entirely and a small ulcer had formed. After the appearance of this nodule, however, and prior to the ulceration, seven other nodules appeared on the forearm and upper arm. These new lesions gave him no inconvenience.

Dr. Smith saw the patient on the first of December. The ulcers of the hand were deep and crateriform with ragged undermined edges and were partially covered with yellowish stringy pus. There were seven large and numerous small nodules extending in a chain-like manner from the wrist to the shoulder. The axillary and epitrochlear lymphnodes were not palpable. The large tumors were red in color, and hard and resistant to the touch, and were tightly adherent to the overlying skin. A diagnosis of sporotrichosis was made, and afterward confirmed by cultures taken from both the ulcerated lesions.

The patient was placed on a saturated solution of iodid of potassium, fifteen drops well diluted after meals, slowly increased to forty drops and later reduced to twenty. Locally a 1 in 2000 mercuric chlorid dressing was applied morning and evening, until the affection was notably decreased, when a di-thymol, di-iodid dusting powder was substituted. Recovery was prompt and uneventful.

My Case—G. H., a farmer living near Denmark, Iowa, forty years old, of slight build, five feet two inches in height, weight 120 pounds, of highly nervous temperament, with a history of neurasthenia a year ago, came to me September 14, 1914, with left forearm badly swollen, tense angry looking, covered with small furuncular appearing eruptions of varying form.

These were from .5 to 2 cm. in diameter, and those furthest developed had red, ragged undermined edges, containing a hard cheesy core which upon superficial examination appeared to be of a furuncular nature.

He had been treated for about two weeks without any favorable results. Iodin with other antiseptics had been used, incisions, poultices and treatments as detailed in the Sutton case before it was referred to him based upon a diagnosis of furunculosis or the less exact one of blood poisoning was done without success.

Even if a few of the nodules appeared to heal, new ones would form and thus keep up the affection with unabated vigor.

As the man was working a milk route and hired help hard to obtain, he attempted to keep up his work, thus using the arm to lift the heavy milk cans which finally caused a general swelling with edema of the forearm, dusky in color, simulating a phlegmon.

The area affected was from the wrist to the elbow with a few scattered nodules on the arm over the extensor surface in this case.

I gave him forty grains iodid potassium after meals, rapidly increasing to 60 grains until recovery was marked at the end of one week, when I reduced the dose to 30 grains t.i.d. until well. Locally I applied tr. iodin over the whole surface and applied ung. crede to the ulcers.

By October 26 he was totally well, and has remained so to date. The origin of his infection is not known, except that he admitted a small abrasion in the region of the wrist during his work as milkman, milk collector and general farmer, coming in contact with cattle, horses and other things which are at times not any too clean.

1007 Fifth Street.

OLEOMARGARINE

Powerful dairying interests have had sufficient influence with their governments to prevent the manufacture and use of oleomargarine, not only in this dominion but in many of the states of the Union. And as long as good butter could be supplied to the public at a moderate price within the reach of all, no emphatic demand was made for any cheaper substitute. At the present time, however, with the greatly increased prices asked for all kinds of food material, and with the urgent necessity imposed by the way for economy in every household, the question is asked by many: "Why should not use be made of oleomargarine, which is cheap and wholesome and has a high food value?"

It is a question in which physicians are much interested and they should be acquainted with the more important facts concerning its proper manufacture and composition.

Oleomargarine had its origin in response to a desire on the part of the late Emperor Napoleon III to furnish the working classes with a substitute for butter, which would be cheaper and more stable. The prize which he offered for the discovery of such a substance was obtained by a chemist working on the Imperial farm at Vincennes, who endeavored by chemical and mechanical means to imitate the physiological process which he supposed to take place when underfed cows supply cream of which the fat is derived in great part from the stores in their own body. By treating beef fat first by comminution and pressure and then by the application of heat of a low temperature, and finally by the separation of the stearin and palmatin from olein by crystallization, he obtained a fat which was free from taste and odour and melted readily in the mouth. It was found to be equally nutritious as butter and had the advantage of having much less tendency to become rancid by keeping.

Large quantities of this new article of food were used in Paris during the siege of 1870-1871, and it then gained such a strong hold on the public as an article of food that Paris now consumes it in very large quantities. It is manufactured from many forms of animal fat, and from several vegetable oils, of which the most important are the cotton seed, sesame and soya bean oils. After its preparation it is washed with milk to give it the flavor of butter; in some grades of it a small percentage of butter is added.

Much has been said by those opposing its introduction regarding the poor grade of fats from which it is stated that this oleomargarine may be made. Such assertions are quite erroneous. When a fat becomes in any degree tainted it is almost impossible to remove the odour of the taint and it can no longer be used without greatly impairing the quality of the resulting oleomargarine. Oleomargarine is now regarded by all physiologists and chemists as a wholesome article of food. France, Great Britain, Germany, Austro-Hungary, Belgium, Sweden, Denmark, and Italy, authorize its manufacture and sale under government inspection and control. It is especially a food product which commends itself to those who are under the necessity of practicing strict economy in their family expenditure. The principal, and in fact the only objection to its use, is the possibility of fraud by the substitution of it for true butter. Legislation to provide for the official supervision of all oleomargarine made, and to ensure that it shall be sold for what it is and not for what it is not, is therefore very necessary.—(The Canadian Medical Association Journal.)

During the six years ending December 31, 1916, 85 per cent. of the deaths and injuries to North Western men were caused by dangerous or thoughtless practices.

R. C. RICHARDS,
Chrm. Central Safety Com.

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MEDICINE AND STATE CONTROL

An editorial in a recent number of The Lancet under the above heading is very suggestive and leaves much food for thought. We have in the past comforted ourselves with the reflection that our ideas and ways of doing things were so different from European ideas that we had little reason to give them a serious thought, but we are becoming less and less certain of ourselves and are beginning to think that in the course of time we shall conform more or less closely to the ways and methods of our neighbors.

The war is modifying the views of all the world as to the functions of government and as to the duties of citizens. The absolute necessity of economy of effort and efficiency of purpose is rapidly gaining ground and we in America are moving along at a speed never thought of before. Many things will no doubt be looked upon as war measures to be laid aside as only temporary but may well be permanent, and subject to an evolutionary progress. The world is now looking to medical science as essential to public welfare; the safety to armies, safety to communities, safety to public health. Until now the practice of medicine has been regarded as a business in which men earned fees which could be accepted or rejected at the pleasure of the individual practitioner. But now under the influence of public necessity, the profession of medicine is liable to be transformed into a state service, army and navy service, public health service, workmen's compensation and social health service. While the principal role of medicine was to deal with full developed disease or to remove acquired disabilities, its practice remained largely a personal matter between doctor and patient. Then came preventive medicine with a desire to stem disease at its source and to avoid the occurrence of physical disabilities; the concern of the state in the matter became intimate for legislation to bring these desirable things about. In England the condition became acute. One department of government after another assumed control of branches of medical practice in which they were specially interested and appointed special staffs to advise the department on medical matters. It appears that the Minister of Blockade is the only member of the Government without a medical staff.

The Lancet deprecates the fact that the director of the medical service has no seat on the war council and is subordinate to the adjutant's department, a condition similar to our own surgeon general who is likewise subordinate and has no direct authority. Lord Rhondda, president of the local government board, is said to recognize this point of view, and to remedy it will introduce a bill. To meet a similar condition in our service, the House of Delegates of the A. M. A. provided for a committee to advise with President Wilson on the same matter. Dr. Frank Billings will be chairman. Civilian practice in England like that of America, has no cabinet member but this condition of medical affairs will be remedied in both countries to meet a medical situation we are rapidly approaching.

The attitude of the medical profession will have a powerful influence in actuating or retarding a state medical service. The country is in pressing need of a military medical service to which the profession is slow to respond. Thirty-two states have passed workmen's compensation acts and are proposing health insurance acts. These the profession are opposing for apparently selfish purposes; and there are other similar services now and to come. Let us not deceive ourselves in supposing that we can for long block public service by the arguments we have heretofore used; but let us offer our co-operation in forwarding national and state public service and in this manner earn a recognition thus far denied us. The public will not refuse us fair recognition and treatment if we fairly deserve it.

There is every reason to believe that the trials through which England is now passing will lead to a reorganization of every service in the interests of economy and efficiency and withal it is shown that the medical service is of the greatest

importance and will be co-ordinated by an officer of ministerial rank. We have now taken an important place in the ranks of nations and we shall not be long in following in lines of welfare service and efficiency. Another generation of medical men will see in our own country a co-ordinated public medical service in many directions under the rank of a cabinet officer. Above all, do not let this be forced upon us but co-operate with the hope of getting what we are entitled to both in rank and emoluments with a feeling that we are entitled to them because we have earned them.

WAR SERVICE AND THE MEDICAL PROFESSION

The medical profession in our own country are confronted with apparently conflicting duties of a grave character. Shall we stay at home and mend our own fortunes or shall we enlist and in this way fulfill the highest and most patriotic duty of an American citizen. Some will elect to do the one and some will elect to do the other.

In 1861 the United States had army surgeons and a surgeon-general, but without authority or organization. Surgeon-General W. A. Hammond had well defined plans which could not be carried out on account of the interference of Secretary of War Stanton and Surgeon Hammond was cashiered for trying to do what he would be cashiered now for not doing. After the most persistent effort, Dr. Lettermann was permitted to organize an ambulance service for the Battle of Gettysburg which effected a great saving of life. The Secretary of War felt competent to manage the medical and surgical service as well as the generals in the field—and it is hard now after all these years to forgive the secretary for the great waste of life directly traceable to him. Disease was then regarded as a necessary attendant on war and from three to five deaths from disease to one death from battle was regarded as a fair proportion. Surgeons were regarded as agencies to treat sickness and dress wounds. But now all is changed. After many years the surgeon is granted authority. Now the country is on its knees begging for medical service. Shall we treat the nation as the nation treated us with more or less contempt? We do not think so: if we do, what a cost it will be to humanity. How shall we account for the multitude of dead men from our electing to stay at home and increase our own fortunes. Our responsibility is greater than that of any other class. We know what the loss will be if we do not give our services. The people do not know except in a very general way. If the public did know and saw able bodied young doctors staying at home to profit by their own and their absent neighbors' practice—the men who place their country before all else—the derelict would find his position anything but desirable in a right minded community. If you ask "Is the doctor's duty and obligation greater than others?" we unhesitatingly say, "Yes;" because he is the possessor of knowledge and skill that others do not possess and which cannot be delegated. One man says he has a practice of $12,000 a year, another doctor says he has a practice of $50,000 a year. Shall he give it up just for his country's sake? We regret exceedingly that we have not the skill in the use of the English language to make a suitable answer.

We turn from this dismal subject to a brighter one. We think of the man with wife and children who has misgivings; how the family will fare when he is gone to serve his country and to save the lives of the brave men who will be exposed to disease and the dangers of battle. These men all their lives have thought in terms of service to their fellow men and to state and nation. Selfishness and the gain of money has never been their rule of life.

THE OTHER SIDE

We have written in a spirit of irritation because the medical profession did not respond with more alacrity to the call of the nation for service in this hour of need. We have felt that the medical profession had the knowledge and skill possessed by no other class and that thousands must suffer and die if we did not come to their relief. But we cannot deny that the profession has been treated with the most contemptuous neglect in the past, that their efforts in the way of public health and welfare have been disregarded, and even now men of the highest character have waited week after week without even an acknowledgment of an enlistment or offer of services. Common courtesy has not been accorded. The effect of all this has been to lessen the enthusiasm of medical men the country most needs. There is no good reason for this and we can account for it only on the ground that the public for generations have measured the usefulness of men by standards of wealth producing. In both England and the United States, the thought of placing conservators of public health and welfare in positions of independent authority has been regarded as ridiculous. England in her great extremity has at last recognized the fact that her

greatest need lies in the health of her munition makers and her armies in the field, and proposes to endow the medical service with independent authority, and now the United States finds her greatest danger in inefficient and inadequate medical service, and yet we go blundering on. Why does not the Government at Washington see that a surgeon-general of the army—however able he may be—without authority is altogether inadequate to meet the exigency of the situation. We must have a man at the head of the medical service an officer of high rank and of independent authority. If a bill is brought before Congress creating generals in the medical service and more colonels, medical men from civil life should participate. Only a few days ago two medical men of international reputation, stated that they had enlisted in the Medical Reserve Corps and expected to be commissioned first lieutenants. These men may look forward to the rank of majors. To say these men should not be entitled to the highest rank because they had not been trained in the "paper work" of the army, is too absurd for a moment's serious consideration. These men with many others, are men of large affairs who with a competent secretary, could fill all the requirements.

We are not writing this in the spirit of criticism, but rather in the interest of the medical military service. We have now reached a period in our country's history when the traditions of the past must be laid aside and every energy bent to the accomplishment of the great purpose we have in view. The sacrifice must be great. Even so, we must not forget to repay in honorable remembrance the great men of our profession who give to their country more than all others, who sacrifice a place and a business which has required the most productive years of a lifetime to secure. It is not money they desire; it is not danger they fear, but a humiliation of service that counts more than all else to these proud self-respecting men who have reached eminence through years of sacrifice that has so profited mankind. We are firm in the belief that the medical profession should stand first in the estimation of the Government, that the regular establishment cannot meet the demands of the present service, and that if the Government contemplates higher grades and greater authority, surgeons from civil life should participate equally with the surgeons in the regular service according to the value of the service, and we feel it would be a serious loss to the country to place eminent civil surgeons in humiliating subordination to perhaps vastly inferior men simply because they belong to the regular army, during the continuance of this war.

REPORT OF THE COMMITTEE ON MEDICAL RESEARCH OF THE ASSOCIATION OF AMERICAN MEDICAL COLLEGES

The chairman, Frederick S. Lee, presents an interesting argument on the relations of research to medical schools and to the practice of medicine. Attention is called to the changes that have taken place in America; that medicine in the last few years has come to be considered more as a science and less as an art. This may be easily understood on considering the development of medical education. Until quite recently the functions of a medical school were to give instruction on methods of treating disease; assuming that the nature of the disease had been fairly well worked out. This state of mind was of course incompatible with any material advancement in medicine as a science. Since in America we have come to consider medicine as a science, we have thought more seriously of the value of research work, and now as we have come to realize that America has a place in medical scientific advancement, the question arises how shall research be conducted; in medical schools or in research foundations? It would appear that logically much of the work should be conducted in medical schools in connection with teaching.

It cannot be doubted that certain kinds of research investigation may be more advantageously carried on in research foundations which are organized and liberally endowed for certain definite purposes, but by far the greater part of research work should be conducted by full time professors utilizing the services of post-graduate students and encouraging as far as possible, undergraduates who manifest an interest in research.

The committee commend research work by practitioners who are not university officers and draw attention to the historic work of Jenner, McDowell, Beaumont, Reed, Carroll, Lazear, and others whose names are less familiar, but who have contributed greatly to the progress of medicine.

The full report of this committee may be found in the Journal of the American Medical Association for April 14, 1917.

THE PSYCHOLOGY OF TEMPERANCE LEGISLATION

Probably no question in modern days has been so difficult to understand as the question relating

to "liquor legislation." It reminds one of the days of the Spanish inquisition. A little reflection will help us to see how impossible it is for many to have the patience to discuss the question on its merits. From our own observations and from what we have heard people say, the most trying thing for the reformer to bear has been the arrogance of the whiskey business. The saloon people have in many ways defied public opinion morally and politically, and we are quite willing they should pay the penalty. We are also willing to subscribe to the opinion that alcohol is not only useless as a beverage but extremely harmful. There is no real place for it in medicine unless in advanced age when the vital powers are running low. There is just one thing in this whole question of alcohol that we have a feeling of resentfulness on and that is the hypocrisy so often manifest on the part of those who profit by the sale of alcohol under the name of some patented medicine. We refer now to Tanlac. We have in mind numerous patent medicines that have been popular, sold by druggists, advertised by newspapers, and recommended by many good people that contained alcohol as the principal ingredient, covered by some bitter herb, root, syrup or something else, but dependent on alcohol solely and absolutely for its effects. The first we recall was Hostetter's Bitters and the last now Tanlac, and the list of names of these nefarious products—intermediate as to time—is limited only by the ingenuity of man in devising them. Some having a national reputation will be remembered as Lydia Pinkham, Peruna, and Wine of Cardui.

In a previous editorial we called attention to a review in a recent number of the London Lancet on the possible effect of absolute teetotalism in England. The same facts and arguments will no doubt apply in the United States. Are we to understand that the eight to ten per cent. alcohol is better for the human system in some patent medicine than three or four per cent. alcohol in beer? We are informed by the Journal of the American Medical Association, that 7,000,000 bottles of Tanlac have been sold in Canada for $1 a bottle. Are we to assume that Canada is $7,000,000 better off for this expenditure?

The psychology of this question as it appears to us as we read the discussion on prohibition in Congress, is the making honest beer outlaw and protecting an illegitimate offspring under the name of Tanlac or some other similar name. We are informed by the newspaper advertisements that Tanlac helps weak and run down people and is of especial benefit to them; no doubt, but it is the alcohol it contains. Why not purchase a bottle of honest wine and not a fraudulent patent medicine for the old or run down man or woman which contains the same or more alcohol?

HEALTH INSURANCE

Commenting on the health insurance bills before the California Legislature, the California State Journal of Medicine says: "If we are to have our just dues, we, as citizens want to deal in these matters directly with the state and not with corporations run for profit, this profit frequently made at the expense of the profession." We have contended all along that neither workmen's compensation or health insurance will be satisfactory to the profession until they become functions of the state. We do not doubt but that private insurance companies are as liberal as they can afford to be. The industry pays the cost of insurance, the private company administers the insurance. If the insurance is too high it will bring a heavy burden on the industry. If the insurance company pays the doctor more than it receives—counting the cost of doing the business —then it will bring them to ruin. We are fully of the opinion that the doctor will not receive any material increase in fees under our present laws in relation to workmen's compensation.

Much is written in relation to the public burden of health insurance. If this is to be the consideration, we had better go back to the primitive methods of dealing with the industrial classes as to health and accident, which would be contrary to modern conceptions of civic relations and progress. Quoting again from the same editorial, "It is almost pathetic to think that in times of war we are willing to vote for billions for our defense against a foreign enemy, billions for materials which are made but to be destroyed, and yet when at peace, we hesitate to vote a few paltry millions for the enemy who is ever present in our midst; sickness." "Therefore we object to any bill for health insurance if it does not provide for the exclusion of private companies run for profit from the field."

WINNESHIEK COUNTY MEDICAL SOCIETY

The undersigned members of the Winneshiek County Medical Society choose to look upon medical mobilization for the war as a proposition involving the profession at large.

The physician who volunteers, or who later is drafted, to serve in this war makes sacrifice.

The absence of these doctors is in danger of being capitalized to the profit of the doctors who remain at home.

Therefore, in order that each, in some measure, may do his bit, share such sacrifices and lessen the evils and injustices of such capitalization, and in order that these aims may be realized to the fullest extent we, of the County Medical Society, do hereby pledge ourselves individually and collectively, through co-operation in our organization to make as effective as possible the spirit and the sense of the following agreement:

That, on request of the doctor about to leave for war service, we declare ourselves custodians and guardians of his practice while so absent.

That, we examine his accounts and list as his clientele all persons whom he has treated during the past two (2) years.

That, we designate certain members who stay at home to take over this clientele and such work as may develop from it.

That, such *locum tenens* shall be required to give a written agreement providing that of the fees collected from such practice 40 per cent. shall be banked to the credit of the absentee.

That, when the medical officer returns from the war to his private practice his clientele so far as the society can bring it about shall be returned to him. And,

That, the society with the consideration of the patients' welfare, shall judge the need of adding to the personnel of the profession of the county during the absence of its members.

THE POLK COUNTY MEDICAL SOCIETY

....., 191....

M.....

Street.....

Post office.....

Dear M.....: As a member of the Reserve Corps of the United States Army [Navy], I have been ordered into active service by the government and on that account I am writing to you of this fact, so that, in case of illness, you may summon some other doctor to attend you.

Sincerely,

.....

Resolution adopted by the Polk County Medical Society:—

Resolved, That the Polk County Medical Society recognize the patriotism of those members of the medical profession resident in Polk county, who volunteer for the service of the United States Government, and in appreciation of this we recommend that should these members of the profession be called into active service, the doctors who shall attend their patients should turn over one-third of the fees collected from such patients to the physician in active service, or to his family.

Please present this letter to any doctor whom you may call in to attend you.

RESOLUTIONS ADOPTED BY THE POLK COUNTY MEDICAL SOCIETY JUNE 19, 1917

1. *"Resolved,* That the Polk County Medical Society recognizes the patriotism of those members of the medical profession, resident in Polk County, Iowa, who volunteer for the service of the U. S. Government, and in appreciation of this we recommend that should these members of the profession be called into active service, the doctors who shall attend their patients should turn over one-third of the fees collected from such patients to the physician in active service, or to his family.

2. *"Resolved,* That the secretary of the society shall have prepared letter blanks according to the form attached, to a number sufficient to supply those physicians who are called into active service, with a sufficient number so they can send a filled out form letter to each patient—a complete list of whom is to be sent to the secretary.

"The secretary is instructed to file the list received, and on notification by a physician that he has terminated his service with the government and has resumed his practice, he shall also send out to each of the patients of this physician, whose names and addresses he has received in the list, a letter stating that the physician has resumed the practice of medicine, and requesting the patient in the name of the society to recognize the physician's patriotism by summoning him should he be in need of medical attention."

If you approve of the plan, please sign the enclosed card and return at once; if you disapprove, please do not return it.

Very respectfully yours,

THOS. F. DUHIGG, Sec'y.

PERSONAL HISTORY OF APPLICANT FOR APPOINTMENT IN THE MEDICAL RESERVE CORPS, UNITED STATES ARMY

Give your name *in full* (including your full middle name):

The date of your birth: The place of your birth:

When and where were you naturalized (if of alien birth)?

Are you married or single? Have you any children, if so, how many?

What is your height, in inches? Your weight, in pounds?

Give the nature and dates of all serious sicknesses and injuries which you have suffered:

Do you labor under any mental or physical infirmity which could interfere with the efficient discharge by you of the duties of a medical officer?

If either parent, or brother, or sister has died, state cause and age in each case:

Do you use intoxicating liquors or narcotics; if so, to what extent?

Have you found your health or habits to interfere with your success in civil life?

What academy, high school, college, or university have you attended? State periods of attendance from year to year, and whether you were graduated, giving date or dates of graduation:

Name any other educational advantage you have had, such as private tuition, foreign travel, etc:

Give all literary or scientific degrees you have taken, if any, names of institutions granting them, and dates:

With what ancient or modern languages or branches of science are you acquainted?

When did you begin the study of medicine, and under whose direction? His residence?

How many courses of lectures have you attended? Names of colleges and dates:

When and where were you graduated in medicine?

Have you been before a State Examining Board? If so, state when, where, and with what result:

Have you had service in a hospital? If so, state where and in what capacity, giving inclusive dates of each kind of service:

What clinical experience have you had in dispensary or private practice?

Have you paid particular attention to any specialty in medicine; if so, what branch?

What opportunities for instruction or practice in operative surgery have you had?

Have you previously been an applicant for entry into the United States service? If so, state when, where, and with what result:

Are you a member of the organized militia? If so, state with what organization and in what capacity.

Have you been in the military or naval service of the United States? If so, give inclusive dates of service with each organization, designating it:

In case of war or threatened war, will you accept active service for duty with the Army, should your services be needed?

What occupation, if any, have you followed other than that of student or practitioner?

Present or temporary address:†

Permanent residence:†

I CERTIFY that to the best of my knowledge and belief the above statements are true.

Signature ☞

Date,....., *191*

Subscribed and sworn to before me, this.....day of.....A. D., 191.....

[SEAL] .....

[Signature and official title]

†The candidate should give his present address for correspondence, and also his permanent address to which he desires commission sent should he be appointed.

FORM 149.
W. D., S. G. O.
(Revised March 6, 1912)

.....*M. D.*,

OF

.....

.....

.....*191*.....

FURNISHES PERSONAL HISTORY

IN CONNECTION WITH

APPLICATION FOR APPOINTMENT

IN THE

MEDICAL RESERVE CORPS,

U. S. ARMY

.....*Inclosures*

Journal of the Iowa State Medical Society August 15, 1917

BOOK REVIEWS

THE DIAGNOSIS AND TREATMENT OF ABNORMALITIES OF MYOCARDIAL FUNCTION

By T. Stuart Hart, A.M., M.D., (The Rebman Co., New York, 1917.)

In spite of the excellent research work and important publications in the medical journals of this country by Hart, Robinson, Cohn and others, no one had attempted to write a monograph on myocardial function. Mackenzie in his "Study of the Pulse" (1902) and Lewis in his "Mechanism of the Heart Beat" (1911) had presented very attractively the knowledge on this subject to the date of writing. Cardiac physiology even now is but in its infancy and with so many recently acquired facts we are indeed fortunate to have them assembled and incorporated in a monograph like this by an expert like Hart. Hart had at his command the rich clinical material of the Presbyterian Hospital, N. Y. The author after the usual anatomical and physiological discussion of the myogenic theory of the mechanism of cardiac activity, describes briefly the graphic aids for the study of myocardial function, namely the polygram and the electro-cardiogram. He then considers the varieties of disturbed myocardial function from the standpoint of easily elicited physical signs, viz. varieties of rate and rhythm. Thus he speaks of I, Regular: II, Irregular Heart. The latter he subdivides into (1) Bradycardia including Heart Block; (2) Tacchycardia; (3) Sinus Arrhythmia; (4) Extra Systoles; (5) Alternation; (6) Complete Irregularity. Under each subdivision the etiology, pathology, symptomatology and prognosis are discussed; and what is of special interest, illustrations and explanations of the phlebogram and electrocardiogram of the individual condition are given. In the final chapter he discusses at length the general principles of treatment, the specific action of each drug in common use for cardiac disease, and finally he gives a short summary of the treatment for each group of cases.

The book is unusually well printed and illustrated and is provided with a very full bibliography. For students and internists it is invaluable; we feel that every practitioner who attempts to keep abreast of recent advances in medicine would be well repaid by adding it to his library. C. P. Howard.

EXPERIMENTAL PHARMACOLOGY

Prepared for the Use of Teachers and Students of Pharmacology, but Would be a Valuable Aid to Teachers and Students of Biology and Physiology as Well, it Seems to Your Reviewer. By Dennis E. Jackson, Ph.D., M.D., Associate Professor of Pharmacology, Washington University Medical School, St. Louis, Missouri. Three Hundred Ninety Original Illustrations, Including Twenty-four Full Page Color Plates.

The above work, as its author states in his prefatory note, surely meets the conditions he imposes upon himself in its preparation. "For several years," says he, "I have had a growing conviction that the teaching of pharmacology might be greatly facilitated, and rendered more effective and comprehensive, if each student could have in his own hands a laboratory manual, giving exact, specific, detailed directions for carrying out most of the experiments which he will be called upon to perform, in the study of this most interesting, vital and complex subject."

Again in his introduction he declares, "The unit of procedure adopted in this manual is the experiment. Each one is, as a rule, complete within itself, although in many instances an orderly sequence proceeding from the simple to the more complex, from the known to the unknown, has been introduced." The author declares, further, that he needs frequently to remind himself that he is not only teaching pharmacology, but that he is teaching it to medical students. The best possible review of this book would be to print in full the author's introduction of same.

The opening pages present a carefully worked out scheme of description of all means employed in experimental work. The illustrations with which its pages are so helpfully filled leave nothing to be desired as to clearness. Special emphasis is laid where it should be as the student leads himself along through its pages, and hence, through the subject he is pursuing. From the simpler to the higher forms of life he must study as a pharmacologist, he works his way till he will have performed one hundred sixty-eight experiments if he completes them all.

Not least in value in the book, it may be observed in passing, are the beautifully colored plates and diagrammatic dissections it contains. Confusion would seem to be quite impossible, so thoroughly and carefully are its inductive processes worked out. The book will do all it claims it has undertaken to do for the student, it is our judgment.

Not content with presenting all the foregoing in one book the author generously throws in for full measure in Part II of the same two more subjects, namely, "Shop Work" and "Photography," each of which is most helpful to the pharmacologist. Taken all in all the author of this new book upon the subject of Pharmacology should lay every teacher and student of same under lasting obligations to him for preparing it. C. S. Chase.

DEPARTMENT OF HEALTH OF NEW YORK

Special Investigation on Poliomyelitis. Report of Committee Appointed by the Mayor to Co-operate With the Department of Health.

VENESECTION

A Brief Summary of the Practical Value of Venesection in Disease. For Students and Practitioners of Medicine. By Walton Forest Dutton, M.D., Fellow, American Medical Association, Member Medical Society of the State of Pennsylvania, etc. Illustrated With Several Text Engravings and Three Full Page Plates, One in Colors. F. A. Davis Company, Publishers, Philadelphia. 1916. Price $2.50 Net.

The author states in the preface that "Frequent requests from general practitioners for a book on venesection, especially adapted to their needs, have prompted the writer to endeavor to meet these demands." The author does not undertake to write a treatise on medicine, but to present the therapeutic value of blood-letting in certain diseases under certain conditions. The first section of the book is devoted to the history of blood-letting. After a considcration of the nature of the blood and lymph, the author takes up the indications and technic of venesection. The author then considers the diseases and conditions in which blood-letting is regarded as a useful means of treatment. Without doubt, venesection is valuable in meeting certain conditions which arise in many cases of disease and would probably be used more extensively than at present if its value was better understood. To meet a demand for a fuller knowledge of when and how to employ this therapeutic measure, Dr. Dutton has written this book.

TEXT-BOOK OF SURGICAL OPERATIONS

Illustrated by Clinical Observations for Physicians and Students. By Prof. Fedor Krause, Medical Councilor, Directing Physician, Augusta Hospital, Berlin, in Association With Emil Heyman, M.D., Chief Physician, Augusta Hospital. Translated Into English and Edited for American Readers by Albert Ehrenfried, A.B., M.D., F.A.C.S., First Assistant Visiting Surgeon, Boston City Hospital, Etc. In Six Volumes. Volume II With 373 Illustrations in Two or More Colors. Rebman Company, Publishers, 141-143-145 West Thirty-sixth Street, New York.

This magnificent volume treats of the surgery of the head and face and represents the highest art in book making. The first chapter considers the many questions in relation to the operative surgery of the upper and lower jaw from the standpoint of the best German surgery. The second chapter relates to operations on the oral cavity. The author holds that the "majority of operations on the tongue can be comfortably carried out with the mouth wide open without the necessity of an accessory incision through the cheek or of autoplastic methods." In operations on the mouth, much care is observed in relation to the mucus membrane so that every surface is covered for obvious reasons. In cases where it is necessary to open the oral cavity in malignant disease, the exposure, according to Langenbeck or von Bergman, is recommended by the author and is illustrated by beautiful plates. A rather full account is given of the Surgery of the Pharynx and of the Salivary Glands, with particular reference to operations for malignant disease. Considerable space is given to operations on the facial and cervical nerves, and many helpful figures presented.

The last half of the book is devoted to surgery of the brain. In osteoplastic opening of the skull, the Heidenheim hemostatic stitch is recommended for the control of scalp hemorrhage. Regarding the various operations on the brain, a full discussion is given, illustrated by numerous figures. In addition to the ordinary operative procedures, many unusual surgical cases and procedures are given, especially Cushing's subtemporal decompression which has excited so much attention in late years.

MUNICIPAL ORDINANCES, RULES AND REGULATIONS PERTAINING TO PUBLIC HEALTH

From Public Health Reports 1915-1916, United States Public Health Service, Rupert Blue, Surgeon General. Government Printing Office, Washington, D.C., 1917.

This report contains as its title indicates, the ordinances, rules and regulations pertaining to public health adopted by the various municipalities of the United States, and can be obtained by request addressed to the Surgeon General, United States Public Health Service, Washington, D. C.

AMERICAN PUBLIC HEALTH PROTECTION

By Boxby Hemenway, A.M., M.D., The Bobbs-Merrill Company, Publishers, Indianapolis.

This book is a popular appeal for a more careful consideration of health measures. It is written in an interesting style for the lay reader and may be recommended as a very excellent exposition of the duties of the public in organizing local health agencies and boards.

THE INTERNATIONAL CLINICS

A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles on Medicine and Surgery. Volume III, Series 1916. J. B. Lippincott Company.

The popularity of the International Clinics is chiefly due to the practical and every-day matter they contain. The general practitioner finds something in every number that he wants and that will be helpful to him. For instance the first paper in this

volume presents a discussion on gonorrhea in the male, setting forth the main facts in the disease and the most approved methods of treatment. Another paper full of information is on The Medical Uses of High-Frequency Currents by Dr. F. DeKraft of New York City. There is a paper on The Use of the X-Ray in the Diagnosis and Study of Pulmonary Tuberculosis by Dr. Charles L. Miner, Asheville, N. C., and also a very helpful paper on The Diagnosis of Thoracic Adenitis, a difficult but a very interesting subject.

There is an interesting and inspiring historical sketch of the great French clinician, A. Trousseau. There is nothing more helpful to the young physician than a biographical study of men who have contributed so much to the making of modern medicine.

In Volume IV of the same International Series will be found a number of papers of equal interest and value. The first paper is a clinical consideration of migraine by Dr. John A. Lichty, which is of particular value to the practitioner who is constantly looking for something helpful in the treatment of this common but troublesome affection. Another paper is on "Insomnia as a Dread." A paper to be particularly noted is on Encapsulated Empyema and Abscess of the Lung with special reference to Exploratory Thoracotomy by Dr. A. P. C. Ashhurst of Philadelphia. This paper is worthy of careful study. Another paper we would suggest thoughtful study is by Dr. P. B. Magunson of Chicago on Backache. This study especially relates to the theory of sacroiliac subluxation, a subject upon which there is considerable controversy.

PUBLIC HEALTH

Conducted in the Interest of the Local Health Officers of Iowa for the Conservation of Health and the Prolongation of Life

Local health officers are urged to present for discussion Iowa public health problems coming to their attention. Conducted by Prof. Mark F. Boyd of the University of Iowa. Subject outline of matter that may properly be given space in this department.

1. Original articles in the field of preventive medicine, epidemiology, hygiene and sanitation.
2. Abstracts of pertinent articles or publications appearing elsewhere.
3. Iowa public health notes—conditions affecting the public health.
4. List of recent government publications pertaining to public health.
5. Questions submitted by health officers relating to public health and replies.
6. Personal items and news respecting Iowa health officers and health administration.

PROGRAM OF A SHORT COURSE FOR HEALTH OFFICERS, TO BE HELD AT THE UNIVERSITY OF IOWA, IOWA CITY, SEPT. 19-22, INCLUSIVE, 1917

First Day—September 19, 1917

9 A. M.

1. Address—Dr. L. W. Dean.
2. Address—President W. A. Jessup.
3. Desirability of a Whole Time Health Officer in Iowa Communities—Dr. B. E. Roberts, H.O., Oskaloosa.
4. (a) Legal Aspects of Health Administration: the Health Officer—Prof. McGovney, Dean College of Law, University of Iowa.

2 P. M.

(Joint meeting with League of Iowa Municipalities.)

5. (b) Legal Aspects of Health Administration: the Local Board of Health—Prof. McGovney, Dean College of Law University of Iowa.
6. Relation of State Board of Health to Local Boards of Health—Dr. W. A. Bierring, President Iowa State Board of Health.

Second Day—September 20, 1917

9 A. M.

7. The Individual vs. Environment in Disease Prevention—Dr. Mark F. Boyd, University of Iowa.
8. Organization of Effective Anti-tuberculosis Work—Dr. D. B. Armstrong, Farmingham, Mass.
9. Control of Poliomyelitis—Dr..... U. S. P. H. S.

1 P. M. (1-3)

10. Clinic: Orthopoedic Relief of Poliomyelitis—Dr. A. Steindler.

3 P. M.

11. Sanitation of Iowa Villages and Farms—Dr. ....., U. S. P. H. S.

Third Day—September 21, 1917

9 A. M.

12. Laboratory Diagnosis of Atypical Cases of Communicable Diseases—Dr. Henry Albert, University of Iowa.
13. Education of the Public in Health Matters as an Aid to Health Officials—Dr. W. A. Evans, Chicago, Illinois.
14. Address—Dr. G. H. Sumner, Des Moines, Iowa.

2 P. M.

15. Clinical Diagnosis of Atypical Cases of Communicable Disease—Dr. A. F. Beifeld, University of Iowa.
16. Clinic in Communicable Diseases—Dr. Beifeld.

Fourth Day—September 22, 1917

9 A. M.

17. Future Development of Public Health Work in Iowa—Dr. C. E. Harris, Grinnell, Iowa.

18. (a) Administrative Control of Communicable Diseases in Minnesota—Dr. A. J. Chesley, Minneapolis, Minnesota.

19. Problems of Stream Pollution in Iowa—Mr. Lafayette Higgins, Des Moines.

1 P. M.

20. (b) Administrative Control of Communicable Diseases in Minnesota—Dr. A. J. Chesley.

21. Supervision of Public Water Supplies by the Health Officer.—Mr. J. J. Hinman, University of Iowa.

22. Clinic: Dermatology—Dr. Kessler.

DOCTORS AND LIFE INSURANCE

In addressing the Tri-State Medical Society in Kansas City recently, Dr. A. M. Corwin of Chicago pointed out that doctors, as a rule, are very poor business men. They are, he said, "E. Z. marks for every wildcat scheme that comes along." Rather than lose their meagre savings in bad investments, he suggested that doctors put their money in life insurance, which does not shrink in settling one's estate.

A MEDICAL COMMISSION, BUT NO MEDICAL MAN ON IT

According to the newspapers, President Wilson has nominated as members of the workmen's compensation commission, to administer the federal employes' liability act, the Reverend R. McMillan Little of Swarthmore, Pa., a preacher in the United Presbyterian church; a Mrs. Axtell of Bellingham, Wash., a social worker and a defeated candidate for Congress, and a J. J. Keegan of Indianapolis, a member of the International Association of Machinists, formerly a member of the state legislature, and more recently a commissioner of conciliation in the Department of Labor. The first of those mentioned above is stated to be a Republican, the second a Progressive, and the third a Democrat; none is a physician. Probably 90 per cent. of the work of the commission will be medical in character.—Journal of the American Medical Association, January 27, 1917.

EXAMINATIONS FOR THE ARMY AND NAVY BY THE NATIONAL BOARD OF MEDICAL EXAMINERS

The National Board of Medical Examiners held its second examination in Washington, D. C., June 13 to 21. There were twenty-four qualified candidates, twelve of whom appeared for examination, the others having been ordered into active duty between the time of their application and the date of the examination. Of the twelve who took the examination nine passed.

The next examination will be held in Chicago, October 10 to 18. The regular corps of the army and navy may be entered by successful candidates, without further professional examination, providing they meet the adaptability and physical requirements.

STATE UNIVERSITY BRANCH LABORATORY, ESTABLISHED AT ST. ANTHONY HOSPITAL, CARROLL

Bacteriologic Work, Pasteur Treatment, and Many Other Departments of Work at State University Available at Carroll Hospital Now

St. Anthony Hospital has made another long stride toward becoming one of the biggest institutions of its kind in the state in the securing of the establishment of a branch laboratory of the State University. The necessary apparatus and equipment have been installed and everything is ready for business.

The work is in charge of Dr. Jessie B. Hudson from Clinton. Dr. Hudson was for four years in charge of the laboratory work in the State Board of Health Laboratory, Iowa City, and her standing in this line of endeavor is well established in Iowa. She comes with the recommendation of the leading medical men of the university, is a doctor of medicine and has a M.S. degree, and her work will be a great addition to the medical and hospital facilities of Carroll and all western Iowa.

Other towns and cities in this part of the state made a strong effort to secure the location of the branch laboratory, but Carroll was finally selected because of its central location and its excellent hospital facilities.

Besides bacteriologic tests, the laboratory is prepared to give the Pasteur treatment for rabies. Work in vaccines, blood serums, and tissue work will also be done, and the diphtheria and typhoid tests from this section of the state will be sent to Carroll instead of to Iowa City. In fact, the local branch is designed to relieve the university from this sort of work from western Iowa, and it also gives physicians in this section of the state much better and quicker service than could otherwise be obtained.

It should be borne in mind that this work is being done directly under the supervision of the state, and that it is entirely independent of the work of any local people except the laboratory equipment is to become the property of the local hospital and the work carried on in connection with it.

The new department will draw its work from all the western part of the state, not from Carroll alone, and its chief benefit to Carroll will be in the bringing of more people to this city for treatment and the enlargement of the scope and territory of St. Anthony Hospital.

COMING MEETINGS

TRI-STATE DISTRICT MEDICAL SOCIETY—DUBUQUE, SEPTEMBER 4-6

The Tri-State District Medical Society extends a hearty invitation to the doctors of Iowa to be present at its annual scientific and clinical meeting to be held at Dubuque, September 4, 5 and 6. The doctor's wives and ladies are also cordially invited to be present.

Dubuque is providing a live ladies' entertainment committee as we feel that this meeting will not be a success without the presence of the ladies; bring them with you, doctor, and come prepared to stay the whole session and particularly to attend the banquet at its close (this includes the ladies).

Dubuque is prepared to welcome us with all her well known hospitality and the program of the meeting which follows is so solid and attractive that it may reasonably claim the attention of every medical man in this and surrounding territory. It is not often permitted us to hear and meet personally such a galaxy of stars of the first magnitude as appear among the names on the program. You simply can't afford to miss such a magnificent treat. "A word to the wise is sufficient."

As has been well said, "Not only for scientific inquiry and discussion, but, also, to promote good fellowship and a true fraternal and professional spirit, let us come together for a good time."

PROGRAM

First Day—September 4

Morning Session, 7:00 A. M.

Clinics at Finley and St. Joseph's Mercy Hospitals.

9:30 A. M.

Address of Welcome—James Saul, Jr., Mayor of Dubuque.

Response to Address of Welcome—Emil Windmueller, M.D., Councilor Illinois State Medical Society, Woodstock, Illinois.

The Child's and Adolescent's Heart; Pathological Sequelae—Daniel Lichty, M.D., Rockford, Illinois.

Discussion—Dr. Paul E. Gardner, New Hampton, Iowa.

Symptoms and Diagnosis of Gall-Bladder and Duct Disease—H. A. Sword, M.D., Milledgeville, Illinois.

Discussion—Dr. I. N. Crow, Marengo, Iowa.

Indications for and the Technic of the Administration of Blood—E. S. Murphy, M.D., Dixon, Illinois.

Discussion—Open.

Parental Alcoholism—L. R. Head, M.D., Madison, Wisconsin.

Discussion—Dr. D. N. Loose, Maquoketa, Iowa.

Abdominal Symptoms — Their Significance — George Kessel, M.D., Cresco, Iowa.

Discussion—Dr. Wilson Cunningham, Platteville, Wisconsin.

Afternoon Session, 1:30 P. M.

Prostatectomy Simplex. Another Plea in Conservation—J. T. White, M.D., Freeport, Illinois.

Discussion—Dr. J. E. O'Keefe, Waterloo, Iowa.

Practical Consideration of Accessory Sinus Disease With Special Reference to Non-Operative Treatment.—Henry G. Langworthy, M.D., Dubuque, Iowa.

Discussion—Dr. A. E. Sherman, Aurora, Illinois.

Fracture of the Spine—T. W. Nuzum, M.D., Janesville, Wisconsin.

Discussion—Dr. C. L. Best, Freeport, Illinois.

Newer Studies in the Prevention of Diphtheria With Special Reference to the Schick Test and Toxin-Antitoxin Immunization—Henry Albert, M. D., Prof. of Pathology and Bacteriology, Iowa City, Iowa.

Discussion—Dr. W. D. Stovall, Madison, Wisconsin; Dr. Guthrie McConnell, Waterloo, Iowa.

Before the Operation and After—L. W. Littig, M.D., Davenport, Iowa.

Discussion—Dr. J. Forest Bell, Elgin, Illinois.

Address in Surgery—Dr. A. J. Ochsner, Prof. of Surgery, University of Illinois, College of Medicine, Chicago. Subject—Practical Hints Concerning Surgical After Treatment.

Evening Session, 7:15 P. M.

Address in Medicine—Dr. Victor C. Vaughan, Prof. of Hygiene and Physiological Chemistry, Ann Arbor. Subject—Protein Poisons and Their Relation to Disease.

Charge of Entertainment Committee.

Address—Dr .C. W. Hopkins, Chief Surgeon Chicago and Northwestern Railroad, Chicago.

Separate evening entertainment is being arranged for the ladies by the Dubuque Ladies' Committee.

Second Day—September 5

Morning Session, 7:00 A. M.

Clinics at Finley and St. Joseph's Mercy Hospitals.

9:30 A. M.

Repair of Fractures (Illustrated)—A. Alguire, M.D., Belvidere, Illinois.

Discussion—Dr. W. A. Munn, Janesville, Wisconsin.

Medical Treatment of Affections of the Nose and Throat—Grant W. Hatch, M.D., Rockford, Illinois.

Discussion—Dr. W. B. Small, Waterloo, Iowa.

A Simple Drainage Apparatus for the Continuous Vacuum Treatment of Empyemia of the Pleural Cavity—J. J. Grant, M.D., Freeport, Illinois.

Discussion—Dr. Robt. White, Prairie Du Chien, Wisconsin.

Address in Surgery—Dr. Edward Ochsner, Chicago.

Subject—A Specific for Every Pathological Microorganism, the Ultimate Goal of Surgery.

Afternoon Session, 1:30 P. M.

Present Status of Blood-pressure—G. E. Crawford, M.D., Cedar Rapids, Iowa.

Discussion—Dr. Wm. T. Lindsay, Madison, Wisconsin.

Address in Medicine—Dr. Wm. A. Pusey, Prof. of Dermatology, University of Illinois, Coll. of Med., Chicago.

Subject—A Critical Consideration of Some of the Present Problems in Syphilis.

Address in Surgery—Dr. Fred H. Albee, Prof. of Orthopedic Surgery, New York Post-Graduate Medical School, New York.

Subject—Plastic Bone Surgery, With Special Application to War Surgery (Illustrated by motion pictures).

Post-Operative Oil Embolism—Its Symptoms, Etiology and Prevention (Illustrated by Vitograph)—Karl F. Snyder, M.D., Freeport, Illinois.

Evening Session, 6:00 P. M.

Luncheon for the doctors and their ladies followed by entertainment—probably boat ride on the Mississippi. (In charge of the Dubuque Entertainment Committee.)

Third Day—September 6

Morning Session, 7:00 A. M.

Clinics at Finley and St. Joseph's Mercy Hospitals.

9:30 A. M.

Direct Laryngoscopy—F. W. Broderick, M.D., Sterling, Illinois.

Discussion—Dr. L. Ostrom, Rock Island, Illinois.

Fracture of the Spine With Presentation of Case—W. P. Slattery, M.D., Dubuque, Iowa.

Discussion—Dr. Geo. P. Gill, Rockford, Illinois.

Address in Surgery, John B. Deaver, Professor of Surgery, Medical Department, University of Pennsylvania.

Subject—(To be announced later).

Afternoon Session, 1:00 P. M.

Some Difficult Diagnostic Surgical Problems (Illustrated by Cases)—D. R. Connell, M.D., Beloit, Wisconsin.

Discussion—Dr. B. A. Michel, Dubuque, Iowa.

Gastroptosis—J. W. MacDonald, M.D., Aurora, Illinois.

Discussion—Dr. P. A. Bendixon, Davenport, Iowa.

The Use of Sodium Cyanide as a Respiratory Stimulant—A. S. Loevenhart, M.D., Madison, Wisconsin.

Discussion—Open.

A Defense of the Obstetrical Forceps—Wm. L. Allen, M.D., Davenport, Iowa.

Discussion—Dr. H. A. Brennecke, Aurora, Ill.

Diagnosis and Treatment of Pyloric Stenosis—H. M. Orr, M.D., La Salle, Illinois.

Discussion—Dr. C. A. Waterbury, Waterloo, Iowa.

Address in Surgery—Dr. Charles H. Mayo, President A. M. A., Rochester, Minnesota.

Evening Session, 6:30 P. M.

Banquet for doctors and their ladies, Hotel Julian.

Toastmaster—Dr. Arthur Dean Bevan, Prof. of Surgery, Rush Medical College, Chicago and President-elect of the A. M. A.

Addresses and Toasts—Dr. Arthur Dean Bevan, Hon. William L. Harding, Governor of Iowa; Hon. Emanuel L. Philipp, Governor of Wisconsin; Hon. Frank O. Lowden, Governor of Illinois; Dr. Charles H. Mayo, President of the A. M. A.; Dr. H. E. Dearholt, President, Wisconsin State Medical Society; Dr. J. N. Warren, President, Iowa State Medical Society; Dr. E. B. Coolley, President, Illinois State Medical Society; Dr. John B. Deaver, Philadelphia.

Leaders of Special Discussions During Sessions:

Iowa—Dr. Tom B. Throckmorton, Secretary Iowa State Medical Society, Des Moines; Dr. James R. Guthrie, Dubuque; Dr. David S. Fairchild, Jr., Clinton.

Wisconsin—Dr. Rock Sleyster, Secretary Wisconsin State Medical Society, Waupun; Dr. C. R. Bardeen, Dean of Medical College, University of Wisconsin, Madison; Dr. John F. Pember, Janesville.

Illinois—Dr. E. W. Fiegenbaum, President-elect, Illinois State Medical Society, Edwardsville; Dr. Jeremiah H. Stealy, Freeport; Dr. August H. Arp, Councilor, Illinois State Medical Society, Moline.

CHAIRMEN OF MEETINGS

Councilors of Iowa State Medical Society

Dr. G. E. Crawford, Dr. W. A. Rohlf, Dr. G. C. Moorehead, Dr. Paul E. Gardner.

Councilors of Illinois State Medical Society

Dr. Emil Windmueller, Dr. Edwin S. Gillespie, Dr. August H. Arp.

Councilors of Wisconsin State Medical Society

Dr. M. R. Wilkinson, Dr. F. T. Nye, Dr. Wilson Cunningham, Dr. G. Windesheim.

President, W. B. Peck, Freeport, Illinois.
Secretary, N. C. Phillips, Freeport, Illinois.

PROGRAM COMMITTEE

Dr. Lawrence H. Prince, Madison, Wis.; Dr. Wm. H. Perry, Sterling, Ill.; Dr. C. A. McGuire, Dubuque, Iowa.

SOCIETY PROCEEDINGS

The Carroll County Medical Society held its mid-summer meeting at Manning, July 5. After a 7:30 dinner at Park Hotel, the business meeting and scientific program was held at Masonic hall. A number of physicians from different parts of the county were in attendance.

The Cerro Gordo County Medical Society met at Mason City, June 27, with the following program: Sutures and Suture Material, Dr. F. E. McGlone;

Foreign Bodies in the Intestinal Tract, Dr. T. A. Burke.

The Cherokee County Medical Society, July 17, had as its guests a number of physicians from northwest Iowa. A clinic was held in the morning at the new Sioux Valley Hospital and a banquet in the evening concluded the day's program.

The largest meeting in the history of the Dallas-Guthrie County Medical Society was held at Pattee Hotel, Perry, July 19; over thirty members and guests were in attendance. A paper on Medical and Surgical Shock by Dr. H. I. McPherrin, Perry, and an address on Some Illustrative Cases of Bone Surgery, by Dr. Charles J. Rowan, Iowa City, was the scientific program.

The Iowa County Medical Society held its regular meeting at Williamsburg, July 25 under the presidency of Dr. J. P. McManus, of Parnell. A large attendance of the membership contributed to the interest of the meeting.

The annual meeting of the Linn County Medical Society was held June 12, at Cedar Rapids. After a 6:30 dinner at Montrose Hotel, followed the business session with election of officers, resulting as follows: President, J. E. Stansbury, Cedar Rapids; vice-president, Chas. T. Houser, Palo; secretary, Roy K. Keech, Cedar Rapids; treasurer, H. M. Ivins, Cedar Rapids.

A military program was the interesting feature of this meeting. The guests of the society were: Dr. H. M. Richter, Professor of Surgery, Northwestern University and Dr. C. P. Howard, Professor of Medicine, State University of Iowa. Dr. Richter, recently returned from a base hospital in Germany, told of surgical experiences in the war zone in Europe. Dr. Howard spoke from personal experience on the Medical Aspects of the War Zone in France. Dr. F. G. Murray, of Cedar Rapids explained the Mechanism of the Field Service of the Army Medical Corp. The address of the retiring president, Dr. C. L. Heald, of Cedar Rapids, was the opening number on the program.

The Louisa County Medical Society held its annual picnic at Odessa lake near Wapello, June 28. An interesting program was given and a large representation of the physicians of the county enjoyed the outing.

A meeting of the Lucas County Medical Society was held at the public library, Chariton, June 22. Papers were read by Drs. Niblock, Kuhn, Brittel and Jeannette F. Throckmorton. Among the guests of the evening were: Dr. Deats of Minneapolis, Dr. Bridgman of Columbia, and Drs. James, Bowen, Davis, Banford, Tilmont, and Sturdivant of Centerville.

The July meeting of the Plymouth County Medical Society was held at Akron, July 10. The program was: Report of the State Meeting in Des Moines, Dr. W. J. Brunner, Akron; The Diagnosis of Appendicitis, Dr. J. M. Fettes, Le Mars; The Need for Compulsory Health Insurance in the United States, Dr. A. H. Jastram, Remsen.

ANNUAL MID-SUMMER MEETING OF THE AUSTIN FLINT-CEDAR VALLEY MEDICAL SOCIETY

With an attendance of over one hundred, the Austin Flint-Cedar Valley Medical Society held its annual mid-summer meeting at Waterloo, July 10-11.

The fine condition of the weather and roads, together with the extra fine program, made this one of the largest attended and best meetings in the history of the society. Every scientific paper presented was a "head-liner" demanding keen interest and attention, and producing the right kind of interesting discussion.

After the first day's session, the visiting doctors and their friends were treated to an automobile drive about the city by the Waterloo members of the society; the visiting ladies were royally entertained, as the Waterloo people always know how to entertain; and the banquet at the Ellis Hotel on the evening of the first day, which was followed by dancing, made up the social part of the program.

THE SCIENTIFIC PROGRAM

Tuesday, P. M., July 10

Dr. C. O. Epley of Laporte City read a paper on "The Significance of Corpus Luteum," which was discussed by Drs. Brinkman, Bierring, Dales and Epley.

Dr. T. N. Walsh of Hawkeye read a paper on "Heart Disease in Children;" with discussions by Drs. Bierring, Dakin and Walsh.

Dr. W. L. Bierring of Des Moines, presented a paper on "The Classification of Nephritis," which was discussed by Drs. McConnell, Weston and Babcock, with Dr. Bierring closing.

Dr. John Buchbinder of Chicago, presented a paper on "Some Suggestions for the Handling of Compound Fractures"—a Review of Six Months' Experience in a Base Hospital in France, illustrated by lantern slides. Drs. Brinkman, Dakin, Hobson, Lott, Bowen and Buchbinder discussed the paper.

Dr. Frank G. Murphy of Mason City, read a paper on "The Significance of Mucous Membrane Disturbances in the Upper Respiratory Tract." Paper discussed by Drs. Bowen, Robinson and the essayist.

Wednesday, A. M., July 11

Dr. W. W. Bowen of Fort Dodge, read a paper on "Diagnosis of Gastric and Duodenal Ulcer," which was discussed by Drs. Kessel, Farrell, Shellito, Rohlf, Brinkman and Bowen.

Dr. Howard L. Beye of Iowa City, read a paper on "Symptoms of Acute Osteomyelitis Based upon the Analysis of Case Histories." Discussed by Drs. Littig, Stevenson, Brinkman, Schilling, Bowen and the essayist.

Dr. J. E. O'Keefe of Waterloo, read a paper on "Consideration of Choice of Operation in Cholelithiasis," which was discussed by Drs. Braasch, Fay, Bowen, with closing remarks by the essayist.

Wednesday, P. M., July 11

Dr. Chas. R. Ball of St. Paul, read a paper on "Poliomyelitis and its Early Diagnosis." This paper was discussed by Drs. Littig, McManus, Dakin and Dr. Ball in closing the discussion.

Dr. W. F. Braasch of Rochester, presented a paper on "Recent Advances in the Diagnosis of Renal Calculus," illustrating his remarks by the use of lantern slides. Paper discussed by Drs. Fay, Brinkman and Braasch.

A Symposium on "Intestinal Obstruction" was presented as follows:

Dr. Geo. Kessel of Cresco read a paper on "Obstruction of the Bowels, Differential Diagnosis."

Dr. W. A. Rohlf of Waverly, took the place of Dr. M. J. Kenefick of Algona, who was absent and gave an excellent impromptu discourse on "Mechanical Obstruction."

Dr. L. W. Littig of Davenport read a paper on "Dynamic Ileus."

These three papers were discussed by Drs. Cobb, Bowen, Brinkman, Evans, Heald, Rohlf and Littig.

The following were elected to membership: Drs. R. S. McCaughey, Mason City; B. F. McNeil, Charles City; Hal Gardner, Cresco; J. M. Smittle, Waucoma, C. W. McQuillen, Charles City.

The following made application for membership: Drs. Edw. D. Allen, Hampton; H. H. Thomas, Decorah; Wm. H. Ross, Waterloo; W. H. Thomas, McGregor; A. J. Joynt, Waterloo; R. H. Lott, Waverly.

The annual election of officers resulted as follows: President, Dr. L. C. Kern, Waverly; vice-president, Dr. C. E. Dakin, Mason City; secretary, Dr. A. D. McKinley, Lawler; treasurer, Dr. John C. Evans, New Hartford.

An invitation from the profession of Waverly to hold the autumn meeting November 13, 1917, in their city was unanimously accepted.

Upon motion duly made, seconded and carried, the secretary cast the unanimous vote of the society for Dr. Amos Babcock of New Hampton, as President Emeritus of the society, thus creating a new office by which the society wished to show honor and respect to one of the oldest, if not its oldest member. Dr. Babcock is seventy-four years of age, has always been one of the most active workers in this most active medical society; and while he does not consider himself in active practice, he is not to be considered as "a back number" by any means. He reads several medical journals from cover to cover as fast as they come out, purchases and reads any new medical publication of importance and authority that is issued, and thus keeps in step with the rapid advance of the profession, for which he has loved and labored during his active life.

After serving in the army during the Civil War, Dr. Babcock studied medicine and graduated from Rush Medical College in 1868. He began the practice of medicine and surgery in New Hampton in the fall of that same year, giving the people of that community the very best of his every effort ever since. No wonder that all the people of his community love and honor him.

As a nestor of the Austin Flint-Cedar Valley Medical Society, and of the medical profession of the state, Dr. Babcock is loved and honored by all his medical brothers.

A. D. McKinley, Secretary.

ANNUAL MEETING OF THE IOWA AND ILLINOIS DISTRICT MEDICAL ASSOCIATION

The Iowa and Illinois District Medical Association held its fifty-first annual session at Davenport, July 12. About ninety members were present. The program was full and of particular interest. Dr. C. M. Robertson of Chicago read the first paper entitled "The Tonsil Question, as I See it Today." The Doctor gave his particular views based on personal observations and experience. The purpose of the paper was to bring to the general practitioner certain important facts that he has to deal with in practice and which cannot be and need not be referred to a specialist.

Dr. E. C. Rosenow of the Mayo Clinic, presented a somewhat exhaustive discussion on "The Etiology of Epidemic Poliomyelitis." Dr. Rosenow was fortunate in his presentation of an exceedingly difficult subject and one hard to follow, but the enthusiasm of the Doctor, his well thought out argument and the logic of his facts, brought him to the conclusion that we were near the finding of a direct control of the disease by a vaccine. For nearly two hours the eloquence of the devoted scientist held the close attention of the audience.

Dr. Jabez N. Jackson of Kansas City, read a paper on "Intestinal Obstruction; Review of Experimental Observation and Practical Suggestions." Dr. Jackson's familiarity with everything relating to the surgery of the abdomen, his experience with acute surgical conditions, and his surgical judgment, especially fitted him to speak with authority on the facts that should be in the minds of practitioners in acute abdominal affections.

Dr. Bierring of Des Moines presented the subject, "Recent Additions to Our Knowledge of Immunity." Dr. Bierring has devoted many years in interpreting the findings of the laboratory to practical medical needs. The Doctor, at one time a laboratory worker, is well fitted to translate this language of the labortory to the language of the clinic room and to

place a fair value on the scientific things that are coming to us almost daily.

The retiring President, Dr. D. S. Fairchild, finding the time so fully occupied, held his address for some future occasion.

The annual dinner was an enjoyable affair. This famous medical society which grew up under the fostering care of strong men, had for a number of years fallen somewhat, but has come into new life under the energy of its secretary, Dr. L. W. Littig.

The officers elected for the coming year are: Louis Ostrom, Rock Island, president; Wm. Rendleman, Davenport, vice-president; L. W. Littig, Davenport, secretary; F. H. First, Rock Island, treasurer; W. D. Chapman, Silvis, reporter; Gordon F. Harkness, Davenport and J. W. Seids, Moline, censors.

Resolutions were adopted safeguarding the interests of physicians during military service.

THE MENTAL HYGIENE WAR WORK COMMITTEE OF THE NATIONAL COMMITTEE FOR MENTAL HYGIENE

The Mental Hygiene War Work Committee of the National Committee for Mental Hygiene is anxious to obtain the names of psychiatrists and neurologists who are willing to give part-time service in the examination of National Guard troops in their vicinity. The recent decision of the War Department to examine the National Guard troops in their armories before sending them to camp, makes it necessary to secure at once a large number of examining physicians. To meet the situation the surgeon general of the army has arranged to accept for this work qualified physicians on contract. A physician may contract for specified duty, at a specified place, for a specified time, or for part-time. This latter provision makes it possible for many physicians who cannot take out commissions, or who cannot give all of their time to the work for a period of months, to give part-time each week. Further information can be received from Dr. Frankwood E. Williams, vice-chairman of the committee, 50 Union Square, New York City.

MARRIAGES

Dr. J. Charles Ryan, of Des Moines, to Miss Nina Gates, of Council Bluffs, July 16.

Dr. N. H. Rasmussen, of Ida Grove, to Miss Theresa Dzingle, of Omaha, at Ida Grove, July 16.

Dr. Chester F. Cashman, of Hartley, to Miss Catherine Fuller, of Hampton, June 30.

Dr. Harry R. Jenkinson to Miss Goldie E. Leighton, both of Iowa City, July 10.

Dr. John S. McAtee, of Council Bluffs, to Miss Marie Callahan, of Omaha, July 10.

Dr. W. M. Skallerup, of Walker, to Miss Belle F. Black, of Chicago, June 27.

BIRTHS

Dr. and Mrs. W. A. Garner, of Kiron, June 28, a daughter.

Dr. and Mrs. I. N. Crow, of Marengo, June 28, a daughter.

DEATHS

Oscar Henry Barthel, M.D., aged fifty-nine; Rush Medical College, 1884; died suddenly at his home in Pocahontas, July 16 from cerebral hemorrhage. Dr. Barthel had practiced medicine in Pocahontas for



OSCAR HENRY BARTHEL

twenty-five years and was active to the last, having returned from a visit only a few minutes before his death. He was an active member of the Pocahontas County Medical Society and a member of the Iowa State Medical Society; a physician of high standing in the profession, and active in business, social and religious affairs as well.

Samuel D. Tobey, M.D., aged eighty; University of Michigan Medical School, Ann Arbor, 1860; served in the Civil War as assistant surgeon of the Eighth Michigan Cavalry; a pioneer physician of western Iowa, locating at Oakland, Pottawattamie county at the close of the war where he practiced medicine for forty-three years; retiring from practice removed to Council Bluffs, where he died at his home July 8 from paralysis.

Adolph Matthew Evetz, M.D., aged thirty-three; St. Louis University, School of Medicine 1910; member of Carroll County and Iowa State Medical Societies; a practicing physician at Carroll for four years, was accidentally crushed and instantly killed in an electric elevator at St. Anthony Hospital, Carroll, June 15.

For the deplorable accident resulting in the untimely death of Dr. Evetz, a physician and surgeon of scientific attainments and high standing in the profession in his community, no blame is attached to the hospital or any one connected therewith.

At a meeting of the Carroll County Medical Society held June 28, the following resolutions were adopted:

Be it Resolved by the Carroll County Medical Society that,

Whereas, Dr. Adolph M. Evetz has been taken from our midst and professional fellowship by an untimely and unforseen death, we make known the high regard in which Dr. Evetz was held by his professional brethren, and that we express our deep sense of regret to both the public and his family, that a man in whom there was so much evidence of future usefulness should so soon be cut off from his professional career.

Be it Further Resolved, That this evidence of respect be printed in our county press and spread upon the minutes of our society.

Nicholas Cornelius Schiltz, M.D., aged fifty-one, died in Des Moines, July 1, after a lingering illness of three years due to melanosarcoma.

He was a native of Iowa, born at Harper, Keokuk county; educated in the common schools and at the Iowa State Agricultural College; graduated from Rush Medical College in 1892, later doing post graduate work at the University of Pennsylvania; formerly a Fellow of the American Medical Association; a member of the Polk County and Iowa State Medical Societies, and a former president of the Polk County Medical Society. He served two terms as city physician and was in active practice until a short time preceding his death.

Dr. Schiltz was a teacher in the medical and dental departments of Drake University for twenty years, having been a professor of the Practice of Medicine and Clinical Medicine. He was greatly beloved by all students and classes, and held in high esteem by his brother members of the faculty—promptness and diligence marked his character. Serving on the staff of Mercy Hospital for many years, and as a practicing physician he had few equals as a diagnostician and a therapeutist.

Dr. Schiltz was a model husband and father and always took great pleasure when surrounded by his family. His passing leaves a void in the hearts of his family, his professional brethren, and those to whom he had administered in the times of affliction.

He was a devout member of the Catholic church, and was buried from St. Mary's church, Des Moines, having selected Reverend J. F. Nugent to preach the funeral sermon.

The disease from which he suffered came on so insiduously that for a time it was deemed benign, and he was operated upon without there being any suspicion of malignancy until a recurrence of the disease.

Authorities on the subject of melanosarcoma are of the opinion that it usually afflicts individuals of a light complexion. In this particular instance, the opinion was not verified, the disease occurring in a person of a dark complexion.

Dr. Schiltz had read all the literature at his command, and continued to read as long as he was able,



NICHOLAS CORNELIUS SCHILTZ

upon this interesting subject and came to the conclusion that melanosarcoma is an infection rather than a malignant disease.

He probably arrived at this conclusion more particularly from the observation of the symptoms in his own case, than by the study of literature on this subject. He was desirous of impressing this on the minds of his fellow physicians with the firm belief that some day his conclusions would be verified.

He had visited Rochester and New York, remaining at the latter place for a number of weeks, undergoing the Coley treatment with the hope of being benefited. The treatment was carried out faithfully for a number of months after his return home but while apparently in the prime and vigor of life, the progress of the disease was not stayed.

Lewis Schooler.

MEDICAL NEWS

Dr. Paul R. Tang, a Chinaman, who studied medicine at the State University and later served as an intern at Mercy Hospital, Des Moines, has returned to China. The doctors and nurses at Mercy Hospital presented him with a steamship ticket to China. Dr. Tang will return later to the United States for further study.

Dr. D. H. Osborn, of the surgical department, of the State University, will remove to Monticello and become a member of the McDonald Hospital staff.

Dr. L. E. Moon of Omaha, has located at Griswold where he will be associated in practice with Dr. C. R. Jones.

Dr. Harold Brereton of Redwood Falls, Minn., has located at Emmetsburg.

PERKINS LAW HAS BENEFITED 877

Since the Perkins law went into effect eighteen months ago 877 children have been admitted to the University hospital at Iowa City, according to an article by W. R. Boyd in The Chicago Tribune. The cases have been divided as follows, according to the service indicated: In orthopedics, 454; in eye, ear, nose and throat, 220; in diseases of children, 131; genito urinary, 2; surgical service, 37; medical, 18; diseases of the skin, 14; gynecological, 2.

Nearly every county in the state has been represented, and the cases have come very evenly from all parts of the state.

Many of the children have been completely cured. With scarcely an exception all have been helped.

WITH OUR ADVERTISERS

A Different Iodid

The new iodid, Siomine, recently approved by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in "New and Non-official Remedies," is a chemical departure from the various types of iodides now in use.

The protoid, fatty acid and alkaline iodids have had demonstrated their usefulness and their shortcomings.

Siomine is hexamethylenamine tetra-iodid, an amorphous solid that contains 78.5 per cent. iodine, insoluble in water and administered in capsules. It is possessed of all the therapeutic value of potassium iodide and so well borne that the disagreeable features of intensive iodide medication are eliminated. Siomine is also useful where a prolonged "iodide action" is desirable. There are record cases where it has been employed daily for from several months to upwards of a year.

The clinical observation of this chemical has included such syphilitic manifestations as locomotor ataxia, paresis, gumma, chronic degeneration of the spinal cord, besides in asthma, acne, multiple neuritis, fibrous goitre, arthritis deformans.

The Howard-Holt Company, Cedar Rapids, Iowa, will supply literature on request.

The war has given a tremendous importance to the whole subject of diet. Food ranks almost with bullets as a vital factor in the great struggle, and efficient utilization of the crops is just as necessary as big harvests. The Carnegie Institute of Boston is to conduct a series of experiments this fall to demonstrate whether men and women cannot maintain their powers on a smaller ration than has hitherto been accepted as the minimum. The Battle Creek Sanitarium has just finished a metabolism experiment lasting forty-five days, with ten subjects. The object was to determine the effect of different diets on the chemical composition of the blood. The results have not yet been tabulated.

Chlorazene and Dakin's Solution

How does chlorazene compare with the hypochlorites or Dakin's solution? You have heard a great deal about the hypochlorites, commonly known as Dakin's solution.

The difference between chlorazene and Dakin's solution may not be clear to you. It is just this. Chlorazene is a definite chemical compound (paratoluene-sodium-sulphochloramide) which was developed by Dr. H. D. Dakin of the Rockefeller Institute, subsequent to his work with the hypochlorites. This new synthetic is known as chloramine T in Europe and chlorazene in the United States. Chlorazene is an improvement upon the hypochlorites. Doctor Dakin has gone a step further and developed in chlorazene an antiseptic which is not only as powerful as the hypochlorites and similar in action but one which is less toxic, less irritant, and stable, both in powder and solution. Chlorazene is more convenient than Dakin's solution and more generally efficient.

The hypochlorites, to be 100 per cent. efficient, must be prepared exactly in accordance with the latest method (there have been three or four formulas) and fresh solutions must be made frequently. The process is involved and technical, requiring a trained chemist and considerable laboratory equipment, each batch must be tested and protected to prevent deterioration for the hypochlorites are sensitive to light and heat. Few physicians and only the larger hospitals have the facilities for preparing this hypochlorite solution.

On the other hand, chlorazene is supplied in powder and tablet form available for use at any time. It will keep indefinitely. Irrigating solutions for use according to the Carrel-Dakin method may be prepared with chlorazene promptly and economically.

Every physician and surgeon in the United States should know of and use chlorazene wherever such an antiseptic is indicated. Literature will be sent on request to the Abbott Laboratories, Chicago, Illinois.

Wholesomeness and Economy

The nation is at war. To protect our rights we must have an efficient fighting machine. The men must be given wholesome and nutritious food in sufficient quantity. The stupendous character of the conflict necessitates rigid economy of both men and material. Nothing is economy that renders food less wholesome, but there is no excuse for catering to prejudice at an increased cost.

Our governmental departments are subject to criticism by the whole country, and it would not be surprising if they catered to known prejudices in order to avoid annoying criticism. But in time of war we must be governed by scientific facts and not by prejudice. That economy will be practiced and that scientific facts and not prejudice will guide the government in the selection of wholesome foods is clearly indicated by recent actions by the Department of the Interior, the Army and the Navy. All these departments have recognized the findings of the referee board of scientific experts who found that alum baking powders were as healthful as any other baking powders. These departments have recently purchased large quantities of alum phosphate baking powders. This is the type which was furnished our soldiers on the Mexican border and subsequently to our sailors and which proved so satisfactory. The people of the United States have recognized the wholesomeness and economy of this type of baking powder for years. Eighty per cent. of the baking powder used in the United States contains alum. Not only are alum baking powders generally much stronger, so strong that the manufacturers recommend the use of only half the quantity called for by high priced baking powders, but the price of the powder pound for pound is but half as much.

During June the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion with New and Non-Official Remedies:

Borcherdt Malt Extract Company:
Borcherdt's Malt Olive.

A. Klipstein and Company:
Lipoiodine "Ciba."

Eli Lilly and Company:
Pasteur Antirabic Preventive Treatment (Harris modification).

Horace North:
Citresia.

H. K. Mulford Company:
Hay Fever Pollenin Fall—Mulford.
Hay Fever Pollenin Spring—Mulford.

NEW AND NON-OFFICIAL REMEDIES

Enteric Coated Glycotauro Tablets—Each tablet contains glycotauro 2 grains and is coated with salol. Hynson, Westcott and Co., Baltimore, Md.

Petroagar—Each 100 gm. contains petrolatum 72 gm., agar 22 gm. with powdered licorice, cocoa and oil of anise sufficient to flavor. H. C. Merker Co., Chicago, Ill.

Petrobran—Each 100 gm. contains petrolatum 74 gm., bran 22 gm. with powdered licorice and "oil of pineapple" (ethyl butyrate) sufficient to flavor. H. C. Merker Co., Chicago, Ill. (Jour. A. M. A., June 10, 1916, p. 1857).

PROPAGANDA FOR REFORM

Vaccine Treatment—Hektoen (Jour. A. M. A., May 20, 1916, p. 1591) traces the stages by which vaccines, which were first employed with attempted scientific control, have come into indiscriminate and unrestrained use, with no guide beyond the statements which commercial vaccine makers are pleased to furnish with their wares. Already most physicians are realizing that the many claims made for vaccines are not borne out by facts, and that judging from practical results there is something fundamentally wrong with the method as at present so widely practiced. As clearly shown by Hektoen, "the simple fact is that we have no reliable evidence to show that vaccines as used commonly, have the uniformly prompt and specific curative effects proclaimed by optimistic enthusiasts and especially by certain vaccine makers, who manifestly have not been safe guides to the principles of successful and rational therapeutics" (Jour. A. M. A., May 20, 1916, p. 1625).

English Prescriptions—Bernhard Fantus, professor of pharmacology and therapeutics, University of Illinois School of Medicine, favors the abandonment of the so-called "Latin" prescription. He holds that the usual arguments in favor of the "Latin" prescription are fallacious and points out the advantages of the use of English. He concludes: "By far the most important reason for writing prescriptions in English lies in the difficulty medical students have in learning the Latin form. To the student prescription writing is a bugbear. When one thinks of the crowded medical curriculum and the comparatively small number of hours set aside for pharmacology and therapeutics, it seems a pity to waste any of it on the acquiring of an antiquated form of expression." In regard to the claim that Latin prescriptions guard a patient from knowledge which might be prejudicial, he replies: "Inasmuch as it is the popular opinion that doctors use Latin in prescription writing to keep the laity in ignorance for selfish ends, it seems high time that we antagonize this idea; and we can do this most emphatically by using English. This we can also do with perfect safety, for secrecy is very rarely, if ever, essential in the practice of the up-to-date physician, who generally prefers to take his patient into his confidence than to keep him in ignorance. Deception is not practiced by the true physician. Therein lies the special difference between the quack and the honest medical man." (Journal A. M. A., May 27, 1916, p. 1696.)

Ichthyol—The American agent for Ichthyol—the sole importer—announces that his supply of ichthyol is exhausted. As fraudulent substitutes are offered for sale, this state of affairs should be known to physicians (Jour. A. M. A., May 27, 1916, p. 1734).

Nonspecific Treatment of Disease—Evidence is accumulating that certain therapeutic effects ascribed

to specific treatment with vaccines or serums, have been due to non-specific effects produced by these preparations. Jobling and Peterson (Jour. A. M. A., June 3, 1916, p. 1734) review the evidence along these lines. They conclude that too much reliance has been given to the idea of specificity and that we have refused to consider evidence of non-specific therapeutic results. We should, however, not cast aside all ideas of specificity in disease, a conception which has been the foundation of vaccine therapy. Miller and Lusk (Jour. A. M. A., June 3, 1916, p. 1756) in a paper dealing with one phase of non-specific therapy, report improvement in cases suffering from arthritis following intravenous injection of typhoid vaccine. It would be of interest to know how permanent the improvement was and in how many cases the cause of the arthritis was found and removed. Also, we must bear in mind the query of Theobald Smith: How much energy does a reaction of this sort cost the patient, and is the final result worth the cost? (Jour. A. M. A., June 3, 1916, p. 1784).

A Case of Beta-Eucain Poisoning—T. G. Orr, Kansas City, Mo., reports a case of beta-eucain poisoning. Toxic symptoms appeared after an operation in which 3 ounces of a 0.25 per cent. beta-eucain hydrochloride was used for the local anesthesia. After the toxic symptoms have completely disappeared, the patient died suddenly five days later. Necropsy showed an embolus in the left coronary artery (Jour. A. M. A., June 10, 1916, p. 1857).

Efficiency and Non-toxicity of "Arsenobenzol"—Udo J. Wile, Ann Arbor, Mich. reports that during the last six months 612 injections of Arsenobenzol from the Philadelphia Polyclinic have been administered at the University of Michigan Hospital. Wile concludes that the immediate therapeutic results from the use of Arsenobenzol are fully as good as those following the use of Salvarsan and that, given with proper precaution, the drug has shown itself fully as little toxic as Salvarsan. The conclusions refer to intraspinal medication as well as to intravenous (Jour. A. M. A., June 10, 1916, p. 1880).

Emetic Action of Drugs—The investigation of R. A. Hatcher and C. Eggleston show that the nauseant and emetic action of many drugs is not due to their effects of the stomach, but to a central action on the "vomiting center." Practically all alkaloids and alkaloidal drugs which have emetic properties, including morphin and preparations containing it, emetin, cephaelin, quinin, nicotin, lobelin, pilocarpin, aconite and veratrin, ergot and apomorphin, which produce nausea or vomiting as their chief or side actions, do so by direct effect on the vomiting center. Sodium salicylate, picrotoxin and digitalis also produce vomiting through central action. These investigations show the futility of the many devices which have been employed in attempts to avoid the nausea or emesis produced by many drugs as an undesired side-effect (Jour. A. M. A., March 11, 1916, p. 817).

Alarming Symptoms Caused by Diarsenol—Diarsenol is made by the Synthetic Drug Company of Toronto, Canada. It is stated to be chemically identical with salvarsan. A. H. Cook, Hot Springs, Ark. reports that he has administered fourteen intravenous injections of Diarsenol. Eleven consecutive doses were without untoward effect or phenomena differing from those attending the intravenous administration of salvarsan. The three subsequent doses produced alarming symptoms, which Dr. Cook never observed from the use of salvarsan or neosalvarsan (Jour. A. M. A., March 18, 1916, p. 865).

Clinical Report on Arsenobenzol—"Arsenobenzol" is being made by the Dermatological Research Laboratories of the Philadelphia Polyclinic. It is stated to be chemically identical with salvarsan. O. S. Ormsby and J. H. Mitchell report a series of 184 injections given to seventy-five patients suffering with syphilis in its various stages. They report that the action of this drug has been uniform, its toxicity low, and its therapeutic results excellent (Jour. A. M. A., March 18, 1916, p. 867).

Endorse the Council on Pharmacy and Chemistry—The following resolution was presented at the San Francisco meeting of the A. M. A. and signed by all the members of the house of delegates in attendance: "Resolved, We, Members of the House of Delegates of the American Medical Association, believe that every effort must be made to do away with the evils which result from the exploitation of the sick for the sake of gain. Earnestly believing that the continued toleration of secret, semi-secret, unscientific or untruthfully advertised proprietary medicines is an evil that is inimical to medical progress and to the best interest of the public, we declare ourselves in sympathy with, endorse and by our best efforts will further the work which has been and is being done by the Council on Pharmacy and Chemistry of the American Medical Association in the attempt to eliminate this evil" (Jour. A. M. A., March 18, 1916, p. 910).

The Requirements of the Council on Pharmacy and Chemistry—New and Non-official Remedies contains the rules which govern the Council on the admission of remedies to this book. These rules merely require that the composition of a remedy be nonsecret, that its uniformity be safeguarded, that no false claims be made regarding its therapeutic properties and that its use shall be at least based on a probability of therapeutic merit. A simple way of determining if a certain preparation complies with the Council's rules, is to see if it is described in New and Non-official Remedies (Jour. A. M. A., March 18, 1916, p. 913).

Larkspur for Pediculosis Capitis—Various formulas for tincture of larkspur for use against pediculosis capitis have been published, but larkspur is poisonous and harm may result where there are abrasions of the skin. Many prefer kerosene. It is applied under a suitable cap. After twenty-four hours the hair is combed to remove nits and then washed (Jour. A. M. A., March 18, 1916, p. 913).

Hexamethylenamin and Uric Acid—If further evidence were necessary to show the futility of administering formaldehyd derivatives like hexamethylenamin as uric acid solvents, it could be found in the observations recorded by Haskins under the auspices of the Committee on Therapeutic Research of the Council on Pharmacy and Chemistry. While the administration of excessive doses may produce slight solvent action, Haskins points out that the required dose of hexamethylenamin is too large and an equal or better effect can be produced more readily by administration of alkaline diuretics or sodium bicarbonate in reasonable quantities (Jour. A. M. A., March 25, 1916, p. 962).

Venarsen, Venomer and Venodine—The A. M. A. Chemical Laboratory found Venarsen, which is recommended by the manufacturers, the Intravenous Products Company, for the treatment of syphilis, tuberculosis, pellegra and other diseases, to be "a simple solution containing approximately 9 grains of sodium cacodylate, 1/40 grain of mercury 'biniodide' and ¼ grain of sodium iodid to each full dose." Sodium cacodylate is inferior to salvarsan or neo salvarsan in the treatment of syphilis. The Council on Pharmacy and Chemistry held the claims made for Venarsen unwarranted and its intravenous injection uncalled for. Venomer, which is also offered as an antisyphilitic remedy, appears to be a variation on Venarsen, containing considerably less sodium cacodylate and considerably more mercury and iodids. It prompts the comment that a careful physician would not give arsenic and mercury in fixed proportions. Venodine was rejected by the Council on Pharmacy and Chemistry because the claims made for it were found unwarranted and its composition unscientific. The indiscriminate use of intravenous products is objectionable for many reasons: It incurs an unnecessary danger, and it puts the physician to needless trouble and the patient to unnecessary expense (Jour. A. M. A., March 25, 1916, p. 978).

Diarsenol—Dr. E. H. Martin, Hot Springs, Ark., reports that, after giving several hundred doses of Diarsenol without any bad effects whatever, he had two cases in which nausea, vomiting and symptoms of apparent collapse such as have been previously reported by another writer. He found on investigation that the specimens which in his hands gave untoward results as well as those previously reported on and two further accidents were all due to a product bearing the same lot number (Jour. A. M. A., April 8, 1916, p. 1155).

Prescribing of Narcotics—The Harrison Antinarcotic law exempts from its operations ready-made mixtures containing specified small quantities of narcotics, but requires physicians' prescriptions containing small amounts of narcotics to be registered. The law should be made consistent by requiring the registration of all prescriptions containing narcotics in any amount. The inconsistency in the law should be removed by prohibiting absolutely the sale, except on a physician's prescription, of preparations containing narcotics in any proportion. The continued uses of small doses of a narcotic drug is just as capable of establishing the habit as is the use of larger doses (Jour. A. M. A., April 8, 1916, p. 1156).

Piperazin, Lysidin, Lithium Carbonate, Sodium Bicarbonate and Sodium Citrate as Uric Acid Solvents. H. D. Haskins has studied the uric acid solvent power of urine of persons taking the various substances classed as uric acid solvents. The investigation lead to the following conclusions: 1. Piperazin can cause the urine to dissolve more uric acid than it would without the drug, and this effect is most marked if sodium citrate or bicarbonate be also given and if diuresis be avoided. 2. Lysidin can act as a uric acid solvent but is not a practical therapeutic agent because of the large doses required. 3. Lithium carbonate is a uric acid solvent if large enough doses are used, but is unsafe and possesses no advantage over sodium citrate or bicarbonate. 4. Sodium citrate and bicarbonate are reliable and satisfactory uric acid dissolving agents when given in such dosage as to keep the urine alkaline (The Archieves of Internal Medicine, March 15, 1916, p. 405).

Emetic Action of Strophanthus not due to Oil—Hatcher and Eggleston have shown that the digitalis bodies produce nausea and vomiting through action on the medulla and that the direct action on the mucous membrane of the stomach is unimportant. They demonstrated that the fixed oil (fat) of digitalis produced no action and conclude therefore that attempts to avoid the emetic action of digitalis by removal of oil from digitalis preparations is of no avail. Similarly Hatcher has recently determined that the oil contained in strophanthus is not the cause of the nausea sometimes produced by this drug. While removal of the oil renders tincture of strophanthus more 'elegant" pharmaceutically, such removal is of no therapeutic importance (Jour. A. M. A., April 15, 1916, p. 1109).

A Much Needed Pharmacologic Investigation—J. D. Pilcher, University of Nebraska College of Medicine, has investigated the action on the uterus of the guinea pig of a number of drugs which are widely used as ingredients of proprietary "female remedies," and which so far have been little, or not at all, studied. Blue cohosh (Caulophyllum thalictroides) showed a variable tonic effect. Pulsatilla (Anemone pulsatilla or Pulsatilla pratensis), unicorn root (Aletris farinosa), figwort (Scrophularia marylandica), valerian (Valeriana officinalis) and skullcap (Scutellaria lateriflora) were more or less depressant. The following drugs gave negative results: cramp bark (Viburnum opulus), black haw (Viburnum prunifolium), swamp maple (Acer spicatum), false unicorn (Chamaelirium luteum or Helonias dioica), liferoot (Senecio aureus), wild yam (Dioscorea villosa), motherwort (Leonurus cardiaca), passion flower (Passiflora incarnata) and

(Continued on Adv. Page xiv)

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The heaviest and most viscous Mineral Oil. *Specially refined for internal use.* Essentially different from and superior to all other Mineral Oils, whether of American or Russian origin.

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Manufacturing Chemists to the Medical Profession since 1858

PROPAGANDA FOR REFORM

(Continued from Page 328)

squaw vine (Mitchella repens). It is to be hoped that Pilcher's work will permit the formation of an opinion as to the therapeutic value of those drugs in which some degree of activity has been found (Jour. A. M. A., April 15, 1916, p. 1205).

Why Glycerophosphates?—The glycerophosphates are split up in the intestines into ordinary phosphates and absorbed and utilized, if they are utilized at all. There is no evidence that glycerophosphates have any pharmacologic action to warrant the belief that they are of use as therapeutic agents. The belief in their value is kept alive by the promotion of certain proprietary mixtures. The glycerophosphates will be continued to be manufactured until physicians refuse to prescribe them. A manufacturer has even substituted glycerophosphates for the potent yellow phosphorus in his elixir of phosphorus, nux vomica and damina and, so his chemist reports, physicians continue to prescribe the proprietary the composition of which has been altered (Jour. A. M. A., April 15, 1916, p. 1205).

Elixir Calcylates Compound—Each dessertspoonful of this specialty is said to contain the "equivalent of" Calcylates (calcium and strontion di-salicylate) 5 grains, resin of guaiac ½ grain, powdered digitalis leaves ¼ grain, powdered squill ¼ grain, extract of colchicum seed ¼ grain, cascarin 1/16 grain, aromatics. One or two dessertspoonfuls are to be taken 3 to 4 times a day. The mixture is to be given in cases of "rheumatism, lumbago, neuralgia, sciatica, etc." If a salicylate is indicated it should be given in sufficient amount in the form of sodium salicylate; the patient should not be given a preparation containing ingredients in the way of guaiac, squill and colchicum which are not needed. Digitalis is rarely indicated in inflammatory rheumatism and it should never be given in a multiple mixture (Jour. A. M. A., April 22, 1916, p. 1307).

DO YOU KNOW THAT?

Being healthy is the first duty of a citizen?

It's the unused body that deteriorates quickest?

A walk in the open is worth two in the house?

Personal hygiene is the first requisite for community health?

Most of the diseases from which man suffers are peculiar to man?

The registration of sickness is even more important than the registration of deaths?

The Constitution of the United States doesn't mention health?



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The bran in Pettijohn's is flake bran—the most efficient form.

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These flavory flakes have for decades formed a favorite morning dish. Now we make it extra-rich in bran, to meet a wide requirement.

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(1651)

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SOME OF THE MORE IMPORTANT ADVANCES IN THE DIAGNOSIS AND TREATMENT OF TUBERCULOSIS*

Francis M. Pottenger, A.M., M.D., L.L.D.,
Monrovia, California

NEWER IDEAS OF PHTHISIOGENESIS

Among the more important recent advances which have been made in the study of tuberculosis, none is of greater import than that bearing on the subject of phthisiogenesis. This has made a total change in our ideas concerning tuberculosis as a clinical entity, and given a new basis from which to combat the disease.

Years ago the idea of heredity dominated the entire subject of tuberculosis. The clinical disease was looked upon as a direct inheritance from parents to off-spring. The attitude of the medical profession, as well as that of laymen, while that idea held sway, was one of hopelessness. When the theory of infection became thoroughly established, however, heredity ceased to hold sway. Then was developed a great fear of the tuberculous patient. Tuberculosis was looked upon as being a disease which was easily transmitted from one individual to another, and an intimate contact (even though temporary), if it took place immediately prior to the onset of symptoms, was considered to be the most probable source of infection.

During recent years our studies have been modified by increased knowledge, and infection in childhood has received an unusual amount of attention. This study was warranted by the frequent findings of pathological lesions, particularly in the lymphatic glands of children; but we have been aided more in our studies by the application of tuberculin tests to large groups of children. This, since the discovery of the cutaneous, percutaneous and intradermal tests, has been a procedure easy to carry out and one unattended by danger. As a result of our studies, we have found that from 70 to 80 per cent. of all children show a demonstrable lesion prior to the age of fifteen years; and it is almost impossible for us to conceive of any child passing through life without coming in contact with a sufficient number of bacilli to produce infection.

THE RELATION OF EARLY CHILDHOOD INFECTIONS TO CLINICAL TUBERCULOSIS

These early infections produce two effects upon the child. First, from the bacilli in the focus, products are given into the blood stream which stimulate the body cells to the production of specific protective enzymes which render the child resistant (immune) to further infection. This occurs to some degree in all who are infected. In spite of this fact, numerous lesions remain active, and, from them, the disease spreads to produce a clinical tuberculosis. In others, the infection heals and the patient remains resistant to further infection. In still another group, the disease remains quiescent for a time, but later, in spite of increased resistance, the bacilli spreads to other parts of the body to set up new metastases.

The lungs are the most common seat of tuberculosis in adult life. Careful pathological examinations of many bodies postmortem, have shown an infection in the lungs of from 45 to 70 per cent. of individuals. If we take the studies made by Hart, which include material from hospitals for those in good financial circumstances as well as the poor, as giving us approximately the true status of these infections, we can safely say that about 50 per cent. of people who reach adult life have an infection in the lungs. Of this one-half one-third (or one-sixth of all adults) heals, leaving only a scar; another one-third remains more or less quiescent and probably produces few, if any, symptoms which are recognized by the patient; another one-third, shows symptoms of clinical tuberculosis which are recognized as such. This important contribution to our understanding of tuberculosis, forces us to recognize the necessity of controlling the infection of the little child. The younger the child and the more in-

*Address on Medicine, Sixty-sixth Session, Iowa State Medical Society, Des Moines, Iowa, May 9, 10, 11, 1917.

timately that it associates with open tuberculosis, the more apt the disease is to spread and produce clinical tuberculosis at once or to extend and produce it later.

THE DIAGNOSIS OF TUBERCULOSIS

In the diagnosis of tuberculosis we are dealing with three separate conditions. First, a healed lesion; second, a condition of inactivity; and third, a condition of activity. An inactive tuberculosis cannot be wholly ignored. It is never free from danger unless it is healed, because it is liable at any time to become active and produce clinical tuberculosis. If we only knew more definitely the conditions which produce the lighting up of an old quiescent focus, we should be in a better position to give an opinion of the danger from this type of infection. We are in the habit of saying that these infections are started up by a lowering of resistance, such as overwork, excesses, disease, etc. We also know that activity is precipitated by various infections of the respiratory tract, such as bronchitis, influenza and pneumonia; but just what the factors are to be guarded against and how to protect the patient from them, is something that we are not able to determine.

As clinicians we recognize clinical tuberculosis and inactive tuberculosis. Clinical tuberculosis consists of that type of infection which produces clinically recognizable symptoms. These symptoms are precipitated when the bacilli multiply, and new metastases are formed; consequently the symptoms and signs which accompany clinical tuberculosis may be taken as evidence of the fact that bacilli are multiplying either with or without the formation of new metastases.

Clinical History—No procedure in diagnosis is more helpful or of greater importance in determining the presence or absence of clinical tuberculosis than a carefully taken clinical history. We do not pay enough attention to getting the history from the patient. We are too apt to let him describe a few symptoms and let the matter go at that. Taking a history is an art but it is one that is sadly neglected. The clinical history of tuberculosis should elicit the symptoms from which the patient is complaining, and, if taken sufficiently carefully, will show many symptoms on the part of many different systems of the body. Symptoms are evidences of disturbed function. In taking a clinical history, no matter what the disease, we must not only think of the pathological process, but we must think of the disturbances in function throughout the entire organism. There are some twenty-five or thirty different symptoms which belong to early clinical tuberculosis. It is rarely that we find one patient complaining of all of them, but we will find a number of them present in nearly every case. A better understanding of these symptoms may be obtained if we group them etiologically. In 1913, I suggested that the symptoms of tuberculosis be grouped under three heads: those due to toxemia; those due to reflex action; and those due to the tuberculous process *per se*. Since that time, further study in visceral neurology has shown the correctness of this grouping; and it has also afforded a basis for a better understanding of the individual symptoms and the part that they play in determining the presence or absence of active disease. The groups of symptoms which I have suggested are as follows:

Symptoms Due to Toxemia—Malaise, feeling of being run down, lack of endurance, loss of strength, nervous instability, digestive disturbances of the nature of hyposecretion and hypomotility, loss of weight, increased pulse rate, night sweats, temperature and blood changes.

Symptoms Due to Reflex Cause — Hoarseness, tickling in larynx, cough, digestive disturbances, of the nature of hypersecretion and hypermotility, loss of weight, circulatory disturbances, chest and shoulder pains, flushing of face, apparent anemia.

Symptoms Due to Tuberculous Process Per Se—Frequent and protracted colds, spitting of blood, pleurisy, sputum.

It will readily be seen that the group of symptoms which is due to toxemia, is the same no matter what the toxemia. This group has nothing distinctive of tuberculosis about it. It can be produced by a tonsillar infection, appendicitis, typhoid, pneumonia, syphilis, malaria, tuberculosis, or any other infection. The severity of the individual symptoms will differ, but it will readily be seen that they belong to this particular group.

In our diagnoses of clinical tuberculosis in the past, we have depended greatly upon a slight rise of temperature; but it can be seen that this is not dependable, for any other slight infection may produce a similar rise in temperature. The reflex group has certain definite peculiarities. First of all, nearly all of the symptoms belonging to this group point to structures other than the lung. This is readily explained by visceral neurology. With the exception of the chest and shoulder pains, which are caused through the sympathetic and spinal nerves, all reflex symptoms are produced as a result of stimulation of the vagus system. When infection is present in the lung, this stimulates the pulmonary ends of the vagus, which in turn carries afferent impulses to the vagus centers and produces re-

flex action in other viscera. In this way hoarseness, irritation of the larynx and cough are produced, and direct attention to the upper air passages. Stomach disturbances, particularly hyperacidity, hypermotility, spastic constipation and intestinal stasis, direct attention to the gastrointestinal tract as being the parts involved. The instability of heart action, on the other hand, calls attention to the circulatory system. Fortunately for our diagnoses, it is rarely that we have the symptoms in group 1 without having some of those in group 2, and it is also quite common to find other symptoms which belong to group 3, which we shall now describe.

A reference to group 3 will show that these symptoms point more or less directly to the lung, and, as such, help us to localize the focus which produces not only the toxic group but those symptoms which are reflexly shown in other organs. Unfortunately the symptoms of this group are not always present early. Pleurisy (dry more frequently than pleurisy with effusion), however, is commonly found as an early symptom of tuberculosis. It is due to a subpleural or a pleural metastasis and means active tuberculosis. The fact that it rarely lasts more than a few days and disappears for the time being, has made us undervalue its seriousness. The serious part of pleurisy is that it shows that the disease process is active and that metastases have taken place in the pleura or subpleural tissue from some other focus. It should make the diagnosis of clinical tuberculosis itself, unless we can definitely prove beyond doubt that the pleurisy is of different etiology. In this connection, I wish to insist upon the fact that dry pleurisy is just as commonly tuberculous in origin as pleurisy with effusion. Spitting of blood is nearly always tuberculous in origin. The preponderance of the number of instances in which it has a tuberculosis back of it as compared with other factors which produce hemorrhage, is so great that spitting blood of itself (unless we can definitely prove that it is due to other cause) should make the diagnosis of clinical tuberculosis.

Frequent and protracted colds or bronchitis often means active tuberculosis. Sometimes the activity is limited and the symptoms of toxemia as well as the reflex symptoms which accompany it, pass over in a short time. It is characteristic of this, however, that it usually recurs, sometimes after a short period and sometimes after a long period; but, any bronchitis or cough which holds on for a period of more than two or three weeks and which is accompanied by symptoms of toxemia, should be considered as being most probably of tuberculous origin.

Sputum from the lung can be of two different types. It can come from the tuberculous ulcer or it may come from the increased bronchial secretion which results from increased vagus stimulation.

After a continued use of this etiological classification of symptoms during the past four years, I have found it to be of the greatest importance in determining between clinical (active) tuberculosis and inactive lesions.

It will be noticed that there are certain symptoms which may be considered as localizing symptoms. While the symptoms belonging to the toxic group can belong to any toxemia, and those of the reflex group with the exception of the chest and shoulder pains can come just as well from an inflammation of any other important internal viscus; yet there are certain symptoms which may be considered as localizing symptoms. Those which point to the larynx (cough and hoarseness), under certain conditions are localizing symptoms; particularly if toxemia is present and persists for any length of time; for the nontuberculous acute infections which invade the larynx, as a rule do not show persistent toxemia nor do the hoarseness and cough persist. The symptom of reflex pain is also localizing in its nature. It is a reflex in which the afferent impulse travels from the lung through the sympathetic nerves and expresses itself on the surface of the body through the spinal nerves. Consequently it is not haphazard in its location. The particular localization of pain in tuberculosis is in those segments of the cord which are in direct relationship with the sympathetics which return from the lung. The ones which give the most pronounced symptoms are the third and fourth cervical.

By carefully analyzing the symptoms elicited in taking the clinical history, one may diagnose or exclude active clinical tuberculosis in a large per cent. of patients; and when we add to this the data obtained on careful physical examination, we can almost positively diagnose or exclude clinical tuberculosis without finding tubercle bacilli in the sputum. All data found on physical examination are localizing in character, and when added to the clinical history make clear the nature of the process which has caused the disturbance in function noted.

Examination of the Patient—Contrary to the usual advice or usual statements regarding physical examination of the chest, I have found that most valuable data can be gained from inspection and palpation; in fact, the presence or absence of active tuberculosis can be determined in a very large percentage of cases (nearly all) by

careful inspection and palpation. Inspection should include the respiratory rhythm, the condition of the muscles and subcutaneous tissue and skin, as well as the general appearance of the patient. As a part of the sympathetic reflex from the lung, we have impulses traveling to the cervical portion of the cord and there being transferred to the motor nerves, the same as previously mentioned in connection with sensory nerves. This stimulation produces an increased tone in those muscles which take their origin from the cervical segments of the cord. Their motor reflex is shown best in the third and fourth cervical segments, these being the ones which receive the greater portion of the afferent impulses from the lung. The muscles which show it best are: The central tendon of the diaphragm innervated through the phrenics, the sternocleidomastoideus, scaleni, pectoralis, trapezius, levator anguli scapulæ and rhomboidei. Other muscles are also involved but these are the ones of greatest diagnostic value because of their situation and ease of examination. While the process is active, these muscles show spasm. If the disease process becomes chronic, they, together with the subcutaneous tissue and skin over them, degenerate; consequently if upon inspection we note a diminished respiratory excursion or a degeneration of some of the muscles with the skin and subcutaneous tissue over them, or an apparent increased tone of some of these muscles, this gives us at once an indication of the presence or absence of pathological processes within the underlying lung, and suggests the probability of the process being active or quiescent.

Palpation—Palpation should be used to confirm the data brought out on inspection or to bring out new data. Sometimes the motion of the chest wall can be determined by palpation better than by inspection. The condition of the muscles and subcutaneous tissue, their increased tone and degeneration, are readily determined by palpation. By palpation we can also determine the condition of pulmonary tissue and in this way pick out areas of infiltration, the presence of cavity, thickened pleura, pleural effusions, emphysema and other pathological processes.

Percussion—In the light of our muscle studies, percussion deserves more attention than it usually receives. Percussion is often done in a haphazard manner; on the contrary, it should be done following out certain definite rules. All muscles should be in a state of perfect relaxation when percussed, otherwise our data will not be reliable. If we compare percussion over muscles on one side of the chest which are taut, with muscles on the other side which are relaxed, we shall find a higher percussion note caused by the muscles on the former side. Where we find degeneration of muscles and subcutaneous tissue, we must allow for this in our percussion findings. Degeneration of soft tissues over the chest will lower the percussion note and give a decreased resistance to the fingers. On the other hand, increased tension of muscles will give an increased note and increased resistance to fingers.

Auscultation—In interpreting the data found on auscultation, we must also take into consideration the character of the muscles and subcutaneous tissue, likewise the presence or absence of pleural thickening and the attendant pathological changes found in the intercostal muscles.

A careful clinical examination, utilizing the clinical history and the data derived by examination thus described, will give us definite grounds upon which to base a diagnosis in nearly all cases which come to us for examination. The symptoms belonging to groups 1 and 2 and the localizing symptoms of group 3, and the further localizing symptoms and signs based upon vagus and sympathetic, sensory and motor reflexes will tell us almost without doubt of the presence or absence of disease within the lung. Then when we add to this the data found from ordinary methods of auscultation and percussion, little doubt should remain in the examiner's mind.

X-Ray in Diagnosis—When the x-ray was first brought forth it was thought that this would give us definite information regarding disease within the thoracic cavity, but greater experience has proven that the x-ray is far from accurate in its picture, and its interpretation is often further from accuracy. Small early lesions do not always cast a sufficient shadow to be recognized, even when the plate is made by an expert rœntgenologist. On the other hand, severe disease can nearly always be determined and some of the smaller early lesions can be shown by expert rœntgenologists.

An x-ray plate should be given about the same value in diagnosis as a physical examination. An expert physical examination should be considered as most reliable. An ordinary x-ray plate should be considered as having about the same value as an ordinary physical examination, and a poor plate should be considered as having no value at all,—the same as a poor physical examination.

Tuberculin Test—Tuberculin, contrary to what is usually said, may be used to great advantage in the diagnosis of active clinical tuberculosis. If the tuberculin reaction is an antigen-antibody reaction, and if the degree of reaction depends

upon the specific sensitiveness of the body cells, then tuberculin should be of advantage in determining the presence or absence of active tuberculosis; because the greatest sensitiveness is present in early cases when the disease is active and when the body cells are called upon to produce specific enzymes to destroy tubercle bacilli. I have come to rely upon a prompt marked reaction to full strength Koch's old tuberculin, as meaning a definite active clinical lesion. I may not be able to locate the lesion. My diagnostic ability may not be sufficient, but I consider, when I find such a reaction, that a definitely active lesion is present somewhere in the body.

Sputum—Such a simple matter as examination of sputum requires more consideration than it receives. When bacillus-bearing sputum is plentiful, then there is little trouble in finding bacilli, but under such circumstances the finding of them adds little if anything of diagnostic value. When the sputum is scarce and the bacilli are rare, a careful technic must be used in order to avoid error,—in fact, an early diagnosis should not be based on the presence or absence of bacilli in sputum. The presence or absence of bacilli simply means the presence or absence of necrotic areas. Active clinical tuberculosis is often present for months and even for years without such necrosis occurring.

Much time may be saved by having the patient collect all of the sputum raised for a period of three days. This should be put into an incubator and allowed to ferment, and then after shaking and thoroughly homogenizing it, a specimen should be made. The percentage of error after this procedure is decidedly small. Antiformin and the Ellermann and Erlandson technic may also be used. Where bacilli are not found, the sputum should be examined for lymphocytes. Sputum with a high lymphocyte count should be looked upon as suggestive of a tuberculous process. Anything above 30 or 40 per cent. of lymphocytes is suggestive of tuberculosis and above 50 per cent. is diagnostic. The albumin reaction may also be utilized. It has been shown during recent years that tuberculous sputum is very apt to give a definite albumin reaction. If the albumin content is greater than normal, it should be considered as suspicious of tuberculous inflammation.

PROGNOSIS

The prognosis in tuberculosis is very different now from what it was a few years ago. Within the memory of the present generation, tuberculosis was considered to be almost hopeless. During the last twenty years, however, much has been done to change this opinion, and if the diagnosis was only made early and the proper measures applied, the hopeful attitude toward this disease would grow much more rapidly. Most patients suffering from tuberculosis are still treated under unfavorable circumstances. It is necessary to treat them in the home, where it is very difficult to create a helpful atmosphere and give them the surroundings, both physical and psychical, which are necessary to give them the best aid in cure. The sanatorium movement has been greatly hampered by the fact that most institutions are insufficiently manned and the operating expenses have been kept so low that patients have not been given the full benefit that should be derived from such care. Most public institutions have also been more or less under political control, and this has resulted in many instances in the admission of patients who were not in condition to receive benefit from therapy. Another thing which has greatly interfered with obtaining better results, is the meager understanding which we have possessed of the real nature of the disease. We are only now beginning to understand tuberculosis and the tuberculous patient; but with the knowledge which is continuously unfolding, the results in the future should be much better than they have been in the past. Much depends upon the character of material under treatment and very much upon the method of handling the patient. My institutional practice has been largely among those who are able to avail themselves of good care. Most of them have been those of the middle class. They have been treated in an institution under excellent circumstances. The records which we have made have been very gratifying. During the past three years we have not failed to secure a satisfactory result in a single case of early clinical tuberculosis. In the moderately advanced cases, we have secured an arrestment of the disease in 68 per cent. In the more advanced cases we have secured an arrestment in about 40 per cent. of all those who remained in the institution more than three months.

One of the most important factors in the prognosis of tuberculosis is the time element. In many patients we have failed to secure a result because treatment was interrupted too early. Tuberculosis is a chronic disease. The susceptibility of individuals to the bacillus differs,—so does their power of overcoming its ravages. One patient will make as much headway to apparently the same degree of infection in six months as another will in nine or ten months. My rule is never to be discouraged as long as I can see im-

provement; and this has led me to obtain many favorable results where I would have failed had I tried to put all patients through in a definite term of treatment.

TREATMENT

The real advance which has been made in the treatment of tuberculosis during recent years, consists not so much in finding new remedies, but in a better understanding of the disease and patient and a better application of the remedies and measures which we have long known. In spite of the fact that we have not found a "cure" for tuberculosis, we have made such progress in our knowledge of the disease and the intelligent application of measures, that an arrestment is possible in nearly all cases, providing the diagnosis is made early and the remedies at hand are intelligently applied under favorable circumstances.

Unfortunately we have no definite direct method of curing tuberculosis. All measures upon which we rely are indirect, in that they are not able to produce the specific action of destroying the tubercle bacillus. They may be divided into two classes: The first, those which make the body cells more active and more capable of responding in the production of defensive substances; the other, those which stimulate the cells to the production of enzymes and stimulate the tissue cells about the focus of infection to an increased production of fibrosis.

The measures which are better recognized, such as open air, favorable climatic conditions, food, rest, exercise, hydrotherapy, heliotherapy and psychotherapy, likewise measures for the relief of distressing symptoms and complications, all act toward the same end,—that of producing a more stable nervous system and better physical state. When the patient is thus kept in a normal nervous and physical equilibrium, his body cells are better able to combat the infection.

Open Air—The question of open air treatment may now be approached more intelligently than at any previous time in the history of medicine, because we have learned that the element in open air which is important in preventing and healing tuberculosis, is not the increased amount of oxygen in the open air as compared with confined air. We have also learned that the harmful effect of air which is found in closed rooms is not due to the excessive amount of C.O.2 contained in it. Recent studies have shown that the benefit produced by open air is due to its physical effects upon the body. Air is of benefit to the human organism in proportion to the manner in which it stimulates the nerve endings which are found upon the surface of the body, and in proportion to its influence in aiding the organism in eliminating heat and other deleterious substances. Thus open air is put on the same basis as climate, the influence being one of surface action rather than a respiratory factor.

Climate—It is still important to insist upon a rational understanding of the influence of climate in healing tuberculosis. Medical opinion varies from the extreme which looks upon climate as being the main factor in cure, to the other extreme which looks upon it as having no effect whatever. Neither of these opinions is tenable. No one can study the history of the human race and its achievements, without realizing the fact that climatic influences are very markedly reflected in our physical and mental capabilities. It is also evident that climate may be a factor in disease, because the efficiency of the human organism is affected by different degrees of heat and cold, by the different stimulation which is produced by the impact of wind, the degree of humidity in the atmposhere, and by other well known meteorological factors. Climate, however, is not a cure for tuberculosis; but like other well-known remedies, is one that may be utilized to the advantage of the patient. It comes so far down the list of necessary measures, however, that it should no longer be thought of as the first factor in cure. The most important factor in the cure of tuberculosis is intelligent guidance. No climatic condition, no matter how favorable, can make up for the intelligent guidance of the physician who is able to understand tuberculosis and to obtain the co-operation of the patient during the long period necessary for a cure to be obtained. It is better to be treated intelligently under climatic conditions which seem unfavorable, than to be without adequate guidance under the best climatic conditions that can be found. Where favorable climatic conditions can be added to intelligent guidance, this factor, like properly regulated rest and exercise, hydrotherapy, psychotherapy and open air, will add its part to the cure of the disease.

Rest—The newer work in the treatment of tuberculosis emphasizes the importance of rest in therapy. Personally, I have found it extremely important to treat patients at rest as long as the disease is clinically active, and longer if there be any particular reason which experience tells me should still require it. During rest the demands upon the body for normal repair are less exacting than during exercise; and, when the organism is required to fight an infection such as tuberculosis, it is best to save it from all extra de-

mands. Rest is called for during active clinical tuberculosis from another standpoint. Increased bodily action increases the acid content of the tissues, and, inasmuch as a patient affected with pulmonary tuberculosis suffers from suboxygenation, he naturally has a tendency toward increased tissue acidity. The destructive enzymes which are responsible for the breaking down of pulmonary tissue, act strongest when the alkalinity of the blood is reduced. Consequently rest may be looked upon as a factor in the prevention of necrosis.

Exercise—When clinical activity is over, however, then it is extremely desirable to improve the patient's physical strength. Exercise should be carried out, beginning very cautiously and increasing as the patient's tolerance improves. I always endeavor to have the patients able to do a considerable amount of work equivalent to from three to six miles walk per day, before treatment is interrupted. If physicians would be successful in handling tuberculosis, they must give a greater proportion of their attention to the patient as an individual. Entirely too much thought has been riveted on the pathological anatomical changes in the tissues, and not enough to the patient as a human being. It is essential to build up as strong a nerve and physical equilibrium as is possible, and if the patient can be brought up to a point of physical strength where his condition will permit him to do a considerable amount of physical work, before he is discharged from the physician's care, the disease will be much less apt to relapse.

Heliotherapy—During recent years heliotherapy has been suggested as having special therapeutic effect in tuberculosis, particularly in joint and bone tuberculosis. Its action seems to be generally supposed to be due to its direct effect upon the bacillary process. There is considerable question, however, about this. It seems more plausible that the favorable action of heliotherapy is equally an indirect one, and is due to its effect upon the surface of the body. In pulmonary tuberculosis, this action is undoubtedly the greater. While the general understanding is that heliotherapy produces its effect through the direct rays of the sun, yet those who are not situated so as to secure a more or less constant application of direct rays, can do their patients great good by exposing them to diffused light. Artificial light from various electrical lamps is also of value. Heliotherapy must be classed among the measures which improve body metabolism and when used intelligently it will be of value. It must be used cautiously and adapted to the patient.

Pulmonary Compression—Pulmonary compression has been utilized rather extensively during the last five years, although it was first suggested many years before. Pulmonary compression is not a "cure" for tuberculosis, although it does exert a favorable influence on some cases where the disease is progressive in spite of other measures. Much of the earlier enthusiasm regarding its use is passing away, and those who are studying it carefully are gradually determining the cases in which it is particularly effective. When this has been determined, its usefulness will be much greater than it is at the present time. It is not simply filling the pleural sac with air, but adapting the measures to the patient and the conditions within the thoracic cavity, that produce the favorable result. It requires diagnostic skill and a good basic knowledge of the disease, tuberculosis, in order to make this measure anything more than an experiment.

Psychotherapy—One of the most important factors in the treatment of tuberculosis is psychotherapy. Psychotherapy should be placed along with other tonic measures such as rest, exercise and properly regulated diet. We are just beginning to appreciate the tremendous importance of nervous influences upon bodily functions. It is impossible to have normal cell activity unless we have nerve equilibrium. Consequently, this side of medicine demands its just share of attention at the hands of those who wish to treat disease, and particularly those who wish to treat a chronic disease such as tuberculosis. It has been shown recently that the depressive emotions, such as fear, anger, rage, discontent, worry, and such physical discomfort as pain, all inhibit the important functions of the body. By acting through the sympathetic nervous system, they cause a general relaxation throughout the non-striated musculature and an inhibiting effect on most of the important secreting glands of the body, the effect of which is to produce a decreased metabolic activity.

It must also be remembered that psychotherapy does not only have to do with the discharge of nerve force through the sympathetic nervous system, but it also has an important bearing on the higher psychical centers which are able to influence every body action. With this understanding, psychotherapy takes its place as a measure of great importance and far reaching in its influence.

Tuberculin Treatment—The substances which are active in the production of immunity and

those which favor increased fibrosis, result from the tubercle bacillus itself and come from either those which produce the infection or from tubercle bacilli grown on artificial media without the body. We speak of these artificial products as "tuberculins." The products which result from the focus of infection are in all probability, at least in part, of the same nature as artificial tuberculins. We formerly thought that one of the factors of particular value in tuberculin was its power to produce immunization; but the more I study tuberculosis, the more I am convinced that the active infection in the body produces as much immunity as the patient requires; and I am gradually coming to the opinion that the more valuable aid afforded by tuberculin lies in its ability to produce a hyperemia about the focus of infection, thus promoting scar tissue formation. If we could have a tuberculin which would contain all of the substances of the tubercle bacillus in their proper proportion, I do not doubt that we could produce a high degree of immunity by its administration; but in all early cases of tuberculosis and in all advanced cases where the patient is making satisfactory progress against the disease and preventing its spread, I think we are justified in assuming that the natural infection itself has endowed the body cells with a high state of specific defense,—probably as high as is possible to be obtained.

INTESTINAL OBSTRUCTION; REVIEW OF EXPERIMENTAL OBSERVATION WITH PRACTICAL SUGGESTIONS*

JABEZ N. JACKSON, M.D., F.A.C.S., Kansas City, Missouri

Acute intestinal obstruction remains today one of the black clouds of despair in the rapidly clearing sky of abdominal surgery. Its persistently high mortality makes it a nightmare in the dreams of the ambitious surgeon. Even the most recent statistics and those of cases in the hands of most expert operators show a mortality of from 40 to 60 per cent. Surgical ingenuity has been apparently exhausted in persistent effort to reduce this rate. The technique has varied from simple, rapid types of enterostomy for drainage to almost every conceivable form of resection or intestinal plumbing. A fortunate series of cases with some method has led individuals to planes of exalted hope, only to be followed by a succeeding series of failures in the same hands, with the same methods—and despair. It is evident that operative technique alone, whatever the character, is inefficient to produce improved results.

It is but natural, therefore, for us to turn to experimental surgery for some possible solution of our problems. In the past few years this call has been answered by a series of most carefully and scientifically conducted observations by a number of magnificently qualified men. The fundamental problem of these experiments has been to determine the cause of death in intestinal obstruction. With this important question solved, we can logically place the responsibility for past failures, and more rationally and intelligently hope for better results in the future. The revelations of these varied observations have led to some persistent minor differences of opinion on various points, but have on the other hand led to some major agreements on essential basic principles. In years past there have been entertained a number of theoretically interesting views as to the causes of death. It is unnecessary to take time here with either their discussion or their enumeration. Suffice it to say, that with all these recent scientific experimentors there is practical concord in the recognition of a toxæmia as the essential cause of death. The nature and source of the toxic cause and the factors concerned in its elaboration are yet problems for fuller solution.

Draper was one of the first of American investigators to seriously attack this problem. Vidal and Roger in France had some years earlier propounded the theory that, particularly in the upper intestinal segments were elaborated normal secretions which under normal conditions were neutralized by opposing secretions of similar, general nature in succeeding lower segments. When, however, the secretion is retained in the segment in which it is produced, it is absorbed and is definitely toxic in action. The mucosa of the stomach, duodenum and upper jejunum were all possible sources of this toxin and also the pancreas and the bile. In Draper's opinion, the gastric secretion was of negligible importance and likewise the bile and lower gut segments. He was inclined to the theory that the duodenal mucosa was the principle source of origin of the toxin, with the pancreatic secretions as a possible factor. Death, therefore, was in a strict sense physiological, the result of the action of physiologically produced toxins. In obstruction low in the gut, where bacteria abound and where death is longer delayed, pathological factors are possibly or even probably added. In

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high obstructions, however, the pathological factor is absent. From these experimental observations Draper advanced two deductive therapeutic suggestions: First, the withdrawal of the retained secretions, either by direct drainage of the duodenum or by gastric lavage. And second, the administration of extract from the lower segments of mucosa containing some form of neutralizing secretion. Death was apparently to some extent, delayed in the dog by such procedure .

A little later the problem was approached by Murphy, then in Boston, whose work has been since continued at Washington University. Murphy agreed with the view that death resulted from the absorption of a toxin. In his judgment, however, this toxin was not a physiologic secretion of any portion of the digestive tract. Instead, in his opinion it was an elaboration, the result of bacterial activity in the stagnant gut. Furthermore, the rapidity of its formation and as well its toxicity were markedly influenced by the condition of the circulation in the obstructed area. In the presence of marked interference with the venous return circulation, the death of the animal was much more rapid than under other circumstances. In pure ligature obstruction, without impairment of either arterial or venous circulation, the dog lived a number of days. Where the venous return was blocked death resulted ofttimes in less than twenty-four hours. The chief objection to Murphy's theory of a bacterial origin of the toxæmia has rested on the fact that death is much more rapid in high obstruction than in low, while on the contrary the upper or duodenal section may be practically free from bacteria while in the lower gut is their natural habitation. Logically, we should hence expect slow death in the upper or sterile segment and rapid death in the lower ileac and colonic cess-pool. The reverse being true renders it rather difficult for us to accept Murphy's theory.

In view of the greatly hastened death in obstruction where there is marked vascular derangement, Murphy presents the clinical advice that under such circumstances the damaged area of gut should be resected, as it has probably lost its capacity to drain itself even after the original source of obstruction is removed.

Whipple and his associates at Johns Hopkins have added a series of very exhaustive and painstaking observations. Their conclusions have supported fundamentally the earlier theory of Draper. They believe that the toxæmia is distinctly of duodenal origin and that it is a normal secretion. To their satisfaction they exclude the bile and pancreatic juices as factors in the toxæmia, and finding the same toxæmia in washed loops, they reject likewise the theory of bacterial origin. They have isolated the toxins from the obstructed area and produced by inoculation identical symptoms to those of acute intestinal obstruction. In his most recent work, Whipple even believes he has identified the specific toxin, and that it is a primary proteose.

Hartwell, another careful investigator, takes issue with Whipple and Draper, and denies that there is any specific secretion in the duodenum with such specific toxicity. He does not question the toxic nature of the symptoms, but differs as to the source and condition of its origin. At least he cannot agree that under normal conditions any such secretions arise in the duodenum. Only when the duodenal mucosa has been damaged do these deranged conditions appear. In the presence of obstruction there is an immense out-pouring of fluids into the gut, producing marked distention. Hartwell attaches much importance to the great loss of fluids from the body in obstruction as a potent factor in the production of death. At the same time the circulation of the mucosa is greatly interfered with by the distention and the damaged mucosa facilitates the absorption of toxins.

When one freely reviews the intricate series of experiments from which these varied observers have formulated their conclusions, and realizes the wonderful variety of normal and abnormal secretions which may occur from the limitless glands of an unappreciatedly vast area of secreting surface; when one even ventures to imagine the chemical reactions which may occur in any area and their interchangeable effects on correlated organs of metabolism, one realizes the natural opportunities for variable conceptions. Indeed, the remarkable fact in the whole matter is that fundamentally their conclusions so nearly coincide.

First, in all we find it is agreed that the primary cause of death in fulminating acute intestinal obstruction is an acute toxæmia.

Second, we find beyond dispute that the principal source from which the toxins may be obtained is in the duodenum and upper digestive tract.

Third, whatever may be the source of origin or the nature of the toxic substance, stagnation through failure of normal peristalsis is the essential feature which permits absorption of the poison.

Fourth, distention and damage to the mucosa and to the circulatory conditions of the occluded area are at least contributing factors which even

though they may not initiate the toxin, favor its lethal development and absorption.

Fifth, the strength of the patient is further sapped by the losses of body fluids.

Sixth, general metabolism is secondarily upset with failing capacity to neutralize any poisons with which the system has to contend.

Seventh, if the patient survives long enough the primary toxæmia, the transmigration of bacteria through the damaged intestinal walls may produce a final peritonitis, but this is not the primary danger.

PRACTICAL THERAPEUTIC SUGGESTIONS:

With a definite idea in mind of the factors of death as revealed by these studies, may we not now glean at least a few practical suggestions?

First—With a positive primary obstruction of whatever character and with a distended and paretic gut as a sequence, it should be perfectly obvious that no purgative or other medicine administered by mouth at least can be of any possible benefit. This is absolutely certain. Furthermore, beyond being absolutely useless, the administration by mouth of anything whatsoever is equally certainly an absolutely dangerous contribution to a condition in itself bad enough. Purgatives, drugs, food or even water, but add to the bulk of accumulated material in the intestine above the obstruction, both by their own added volume and further by an enormous increase in the secretion of fluids which they induce. They thus greatly increase the distention already present, damaging thereby the mucosa locally and the circulation generally; they raise the tension and increase the rate and quantity of absorption of the toxic product whatever its nature, and thereby hasten death. If there were no other lessons to be learned from these studies than that of the utter uselessness, nay the positive damage of food, drug or water administration in acute intestinal obstruction, this lesson if it could be carried home to every family physician and blasted into his conscience in action, the tireless labors of these patient scientific experimentors would have been fully repaid. More patients are promptly killed by purgation in intestinal obstruction than by any other cause. *Keep everything out of the stomach* should be the first inviolable law.

Second—Going still further it is likewise obvious that morbidity and death may be at least held back a while if we can also remove the existing accumulation of poison laden fluids above the obstruction. Nature with its wonderful intelligence makes an effort in this direction when with reversed peristalsis it initiates the regurgitant vomiting which finally becomes fecal. Fortunately this process can be greatly facilitated by the use of the stomach pump. By its use ofttimes enormous quantities of foul fluid may be recovered from the stomach. In a few hours a repetition of the use of tube will bring increased quantities. It has become clinically obvious to us that gastric lavage stimulates the emptying of the duodenum backward into the stomach even in the absence of obstruction below. The post-operative phenomena of acute gastric dilatation, adynamic ileus, and similar conditions which formerly added a very painful and definite mortality to ofttimes simple abdominal procedures, can be practically mastered by the application of this knowledge. In fact we may add in passing that we believe many other variously diagnosed post-operative conditions are in reality primarily the sequence of a duodenal stagnation and intoxication, and may ofttimes be relieved by gastric lavage, begun early before the patient is hopelessly toxic and continued until, with the relief of the toxæmia, normal action of the intestine is resumed and symptoms subsided. The stomach tube should be the fixed and ever present companion of the intelligent general practitioner even as it has of necessity become for the surgeon who hopes to boast a respectably low operative mortality.

A recent case of intestinal obstruction in our service illustrates particularly well the effect of gastric lavage in retarding serious symptoms. The case, a boy of ten years of age, was brought into the hospital with a diagnosis of acute intestinal obstruction about five days after the first onset of symptoms. He was found with fecal vomiting, an enormously distended abdomen, a very rapid pulse and labored breathing, a cold surface and a general expression of closely impending dissolution.

Our experience of the past with cases in this condition had been that of absolute certainty of prompt death from any surgical intervention. So, expressing our experience, we declined to operate. Without, in this case, entertaining any definite hope, we decided to see what might be accomplished along the lines we are indicating. Accordingly gastric lavage every three hours was ordered, everything by mouth was inhibited, continuous proctoclysis with bicarbonate of soda and glucose instituted, and hypodermoclysis of salt solution was given about every four hours. The patient showed rapid improvement. In a couple of days, the abdomen was flat, the vomiting had ceased, the pulse, temperature and respiration were normal and the lad was feeling fine. No

mass could be palpated in the abdomen and we really concluded that our primary diagnosis had been in error. The treatment was continued for several days longer and then as the boy appeared practically normal and was becoming restless with hunger, we permitted the administration of small quantities of liquid nourishment and water, and discontinued lavage and proctoclysis. In twenty-four hours distention became again manifest with increasing pulse and respiration and evidences of sickness. A return to original treatment again brought a recession of symptoms in a day and then after a few more days we went back to food. Again a return of symptoms. We now decided that after all there must be some surgical condition present and after twenty-four hours of lavage and other previous treatment with a subsidence of symptoms, operation was instituted. To be brief, a complete obstruction from intussusception was found about ten inches from ileo-cæcal valve. The slight mass was low in the pelvis, explaining our failure to palpate. It first looked like a simple volvulus with adhesions. In gently separating our supposed adhesions, the distal end of the gut was brushed entirely loose. In other words, there had been a practically complete amputation of the gut and the lumen would not more than admit the lead of a pencil. Here we had an absolutely complete obstruction to the point of amputation, and yet all serious toxic symptoms had been kept entirely in abeyance for nearly ten days after institution of lavage and two weeks from the inaugural obstruction. From this clinical experience corroborating the deductions from scientific experimentation, we strongly urge gastric lavage as a possible means of delaying, at least, serious symptoms until operative interference can be secured. We also urge the application of the same lines after operation has been done until normal intestinal peristalsis is resumed.

Third—The lost body fluids should be replaced by proctoclysis and hypodermoclysis, both before and after operation. Thus fluids are replaced, toxins diluted, elimination increased and acidosis neutralized.

Fourth—In operative procedure there have come two suggestions: (a) Murphy has urged the resection of any area of distinctly damaged gut wall, the probable particular source of toxin production. This suggestion is, however, of but limited practicability. In cases of early diagnosis with the patient yet in good general condition, and in the hands of a capable technician, it is undoubtedly the ideal procedure. Unfortunately, the great majority of cases do not reach a surgeon in such a favorable stage. In the average case, late and desperate, we would question any method, however theoretically proper, which involved much added time with added shock.

(b) The direct surgical drainage of the high intestinal area which is obviously theoretically correct, has been practically applied by Hugh McKenna of Chicago, in eight cases with recovery of all. The principle is, a quick enterostomy high in the jejunum as the sole primary operation. This has resulted in tiding by the crisis of acute toxæmia. In six to eight weeks later, with the patient in good condition, the obstructed and damaged area was successfully resected. This suggestion, based upon such results, certainly is worthy of adoption until by fuller experience its value is proven or disproven.

In conclusion, it is evident that surgical relief of obstruction is the only final salvation for life, and should be instituted early before the patient has already absorbed a lethal dose of poison. Delay is only excusable at all in doubtful diagnosis. It is really not excusable then for practically all acute abdominal crisis which may in any way simulate obstruction are themselves likewise surgical conditions. The only excuse for the responsible physician is the refusal of patient to accept his advice. And finally it is probable that mortality can be favorably influenced by the application both before and after operation of the suggestions above deduced from certain scientific knowledge.

A PLEA FOR MORE RATIONAL THERAPY IN CHRONIC ENDOCARDITIS—PARTICULARLY WITH DECOMPENSATION*

E. D. McClean, M.D.,
and
K. L. Johnston, M.D., Oskaloosa

We are so often impressed by the lack of thorough appreciation of the mechanics, pathology, and drug action in heart disease, of this type, that we feel that our ideas may add "a bit" to the fund of facts the general practitioner has to draw from.

Many such cases are treated for years without a definite aim and the results obtained are not commensurate with the improvement originally possible under a more rational therapy.

*Read before the Des Moines Valley Medical Association, Ottumwa, May 31, 1917, by E. D. McClean, M.D.

MECHANICS INVOLVED IN HEART CASES OF THIS TYPE

The blood normally constitutes a more or less closed circle, in quantity, normally continually on the move, with the heart the propelling mechanism. Disturbance in its motion may be due primarily to altered conditions in the propelling mechanism, the vessels, or the blood itself. It is the first factor we wish to consider.

Successful cardiac function is dependent on several factors, chief of which are:

1. Capability of heart muscles to force blood along by rhythmical, definitely interrupted contractions.
2. Cardiac dilation must be of no greater size in any or all heart chambers than required to handle the increase in blood volume incident upon valvular lesions.
3. The heart valve segments must be capable of enough movement to allow incoming blood to pass from pulmonary artery to auricle, auricles to ventricles, and ventricle to aorta.
4. The heart valves must be capable of closing the valve opening sufficiently to allow systole to push onward enough of the blood within the given heart chamber to keep the blood mass moving.
5. Proper innervation and equilibrium between the vagus and sympathetic nerves, and successful transmission of contractile impulse over the entire heart.

All of the above apply to all the heart chambers, and those regarding valves to all valves, either within or leading to or from the heart. The first two of the above divisions concern us particularly as they represent the possibilities of treatment.

The heart power is capable of increase by increase in size, number, and strength of muscle fibers, all of which can occur up to certain limits, and do occur as demand is made for more heart work. The hypertrophy limit of each heart is a problem in each individual case, and the test of need must be present to determine the ultimate limit for every heart. The more gradual the increased demand is made, the greater the ultimate possible response, the converse is also true. So long as the demand made, in heart work, is within the limit of the work coefficient the heart can do at that particular time, compensation is maintained, but as soon as the demand for heart work exceeds the effort the heart can make, then decompensation supervenes.

Everyone is familiar with the ulcerating process, followed by loss of valve tissues, scar formation, and contraction which goes on in the heart valve during acute endocarditis. That this same process may go on gradually over a period of years, or that the process may have latent stages, coupled with subacute recurrences of the ulcerating process is less commonly appreciated. Whichever of the above is present, affects the mechanics of valve work only by the degree of destruction or adhesion of valve tissue. An acute process may destroy more in a week than a chronic one would in ten years. The problem, after the acute disease is over, becomes in all cases one of assisting the heart to mechanically be as efficient as a power station, as is possible with its valve stenoses, insufficiencies or both. We should all realize that nothing in the line of treatment will in any way replace lost valve substance, or lessen valve adhesion, but that the hope of treatment is to assist the heart in its effort at hypertrophy and dilation to overcome the mechanical defects present, by handling more blood under greater pressure.

Where the power required of the heart becomes excessive for that heart, only one thing can happen—namely, dilation, either sudden, with death, or more gradual with decompensation, with its attendant phenomena—of rapid rate, imperfect contraction, and loss of syncrony—and backing up of the blood mass into the points of lowest pressure. This giving away in the heart usually begins in the right heart, with its attendant pulmonary and hepatic congestion. The intimate connection of the liver to the inferior vena cava, throws the force of the column of blood in the dilated cava, now under positive back pressure, upon the relatively weak liver veins and the liver blood spaces which have no valves, producing an intense passive hyperæmia, manifested by an enlarged, tender, often pulsating liver. The appreciation of this water trap action of the liver and the part it plays in incipient decompensation, is very important because this factor is apparent long before the back pressure is sufficient to break down vein valves and produce edema of the extremities and other dependent parts.

The edema of heart cases is primarily a stasis edema, differing from nephritic edema in this respect and also in that colloid tension probably plays no part in its existence. The border line between cardiac and nephritic edema is not sharply drawn and cannot be—when a kidney that has long been passively congested really begins to disturb colloid tension, or when a heart the subject of toxic myocarditis, in a nephritic, begins to permit static edema, is a distinction not easily made. We wish especially to emphasize the effect on the abdominal viscera of edema. Long before ascites

has occurred, the absorbing surface of the small bowel has become so congested that absorption is reduced to a minimum. This is of importance when alimentary medication is about to be advised.

Treatment of decompensated or incipiently decompensated cases

The two important facts in treatment are these —a heart capable of response to digitalis and stimulants, and possession of a hypodermic syringe.

1. *General Care—a. Rest*—Must be absolute and persisted in until the edema is gone, the urine normal in amount for twenty-four hour periods, the dyspnœa gone, or hypostatic pneumonia threatens. By rest we mean bed rest—the half sitting position in bed is very commendable for the relief it gives from dyspnœa.

b. Bowels—They should move two to three times daily. Salines are of utmost value, if given highly concentrated, in relieving edema. Do not fill the bowels with flushings. Remember your patient is water-logged now. He needs drying out, not sprinkling. Insist upon the use of the bed-pan. The gain of two or three days' treatment may be quickly dissipated by one or two attempts to get up to go to stool.

c. Diet—Should be light, and not pushed. The intestinal absorbing surface is intensely congested, and absorption here is nil. It is entirely useless to push feeding, it is only adding the load of increased elimination to the already present one.

d—We believe any attempt to conduct business or the reception of visitors should be strictly forbidden.

2. *Drug Treatment*—The aim of treatment is to help the heart back into compensation and get its size, shape and rate as near normal as possible, reduce body fluids and relieve existing complications.

Digitalis — (*a*) — The drug universally accepted as the one of choice. It, however, has no affect whatever upon the basic pathology existing in the heart. Its only use is the aid it exercises in establishing compensation. Williamson claims its height of action is increasing the pulse amplitude by lowering diastolic rather than raising systolic blood-pressure. Under full action the heart rate is slower and more regular; the amplitude of the pulse, or pulse-pressure, times the frequency equals more blood from the heart per minute than before. Fraenkel says "the improvement plus the increase in volume per second is characteristic of digitalis action."

Mode of administration

We are of the opinion that the use of the tr., infusion, fl. ext., or dried leaves of digitalis is not attended by the best results, because of the following:

1. The lack of uniformity in the strength of the various preparations, as well as the variance in the strength of various crops, as well as the variance in each individual crop.
2. Rapid deterioration of the various products mentioned above with age.
3. Liability of oral administration to cause stomach and intestinal irritability.
4. Poor absorption, from gastrointestinal tract, because of passive congestion of intestines, portal circulation, lymphatics and liver.

We prefer the following for reasons about to be set forth.

Digipuratum in ampule form, because:

1. It is standardized—each ampule containing eight frog units of digitalis action.
2. Enables the accurate regulation of the dose, with assurance that the heart receives the full effect.
3. In our hands has proven the most efficient preparation.
4. Enables the physician to gauge and prepare for cumulative action—which authorities now agree to be due to a stable combination between heart muscle and the drug—rather than the rate of drug absorption. Digipuratum is best given intravenously, after warming the ampule to body temperature. If given intra-muscularly or subcutaneously, action is the same, but somewhat delayed; and the local reaction at the site of injection is quite severe. Ampules given at eight hour intervals for the first forty-eight hours, will thoroughly digitalitinize the patient. After the first forty-eight hours, the rate of giving can be raised to twelve hours, to avoid cumulative action.

Digalen, put up in 15 c.c. bottles, is, we believe, the next most reliable preparation. It is rapidly absorbed but unfortunately the action is of short duration; is best given intravenously, but may be given, and borne very nicely, subcutaneously. The ordinary dose is 15 to 20 mm. The drug does not deteriorate with age, and is accurately standardized. It makes a most excellent preparation for quick digitalis action when beginning treatment, afterward changing to digipuratum.

In all digitalis therapy, measure the drug efficiency by daily taking the systolic and diastolic blood-pressure, determining the pulse amplitude, measuring the total amount of urine passed (to determine the diuretic effect of the drug), and

daily percussing out and measuring the heart size (estimate the recession of the dilation).

(*b*) *Strophanthus*—Has practically the same action as digitalis, but is less cumulative. The same objections obtain with regard to its oral administration. It is best given by using strophanthin, the alkaloid, intravenously, in ampules containing one milligram. The action is very rapid and considerable care should be used to prevent over dosing. We prefer giving one-half ampule, then repeating the other half in four hours. It is a poor drug for continued use, but most excellent for first aid treatment, when heart cases are first seen.

(*c*)—*Stimulants* are very essential in cardiac therapy for their effect on the vasomotor and respiratory centers rather than their effect on the heart itself.

1. *Strychnine* is mentioned only to be condemned. The drug has no place in decompensation therapy *per se;* but later may have some place as a bitter tonic. Its action is that of a whip.

2. *Caffein* is coming to be recognized as an excellent cardiac stimulant. Its action is vasomotor and respiratory stimulation and in addition is a diuretic of first rank. We prefer giving the caffein sodium—benzoate hypodermically in two gr. doses, at about four hour intervals.

3. *Camphor* has very similar action to caffein and is best given in oil, in from two to four grain doses—hypodermically. It may well be alternated with caffein, but lacks its diuretic action.

(*d*) *Vaso Depressants* have their chief use in high pressure cases, where the high pressure incident on cardiac-vascular-renal sclerosis is threatening cardiac dilitation, and in which the lowering of the pressure is perfectly compatible with compensation. A word of caution must be spoken about the giving of dilating drugs when moderately high pressures are encountered; in partial decompensations very often these cases require higher pressure than they possess, for full compensation, because of highly contracted kidneys and sclerotic arteries. In these cases giving vaso-dilators, the condition present is only made worse, and they are strongly contradicted.

(*a*) *Nitro-Glycerine* causes a blood-pressure fall of 25 to 40 mm. hg. but its action is so transient, lasting but one to two minutes, that the drug is practically worthless in the class of cases we are dealing with. The same is true of amyl nitrate. The effect is somewhat longer and the fall sharper, but the administration is respiratory and very difficult to control.

(*b*) *The Nitrites* are much more efficient; their action lasting one to two hours. They are best given by mouth, in one to two grain doses. We caution against giving them in tablet form because of their rapid oxidation and consequent deterioration. They are best handled in fluid medicines, being palatable, fairly readily absorbed and oxidizing less rapidly.

(*c*) *Morphin Sulphate*—We find morphin sulphate a very valuable drug because it puts the patient at rest and decreases the work of the heart, assisting return in compensation; also allows sleep and relieves dyspnœa.

Dosage one-fourth grain, given hypodermically one to three times in twenty-four hours as required.

(*d*) *Atropin*—This drug should be used with more or less caution, because it increases the pulse rate. It is indicated in acute pulmonary edema and bronchitis with excessive exudate. Give in small doses and repeat if necessary.

Venesection—The object of venesection is to relieve the fluid load of the circulatory system which will bring more immediate relief to a decompensated heart than any other therapeutic measure.

Always indicated except in decompensation accompanied with extreme anemia. It should not be repeated too often as it deprives the patient of too much hemaglobin and may produce a marked secondary anemia.

We emphasize the necessity of taking sufficient blood at the initial letting, one to three pints, depending on the size of the patient, amount of decompensation, etc.

General Anasarca and Effusion—The ascites should be tapped under surgical asepsis, if persistent, care being taken not to remove too large an amount of fluid as to induce shock; the blood-pressure being used as an indicator during the procedure.

Of plural edema, the same treatment is indicated. Repeat no oftener than the pressure symptoms absolutely demand.

After compensation returns, use systematic exercise and hydrotherapy to increase the cardiac reserve power.

Avoid all excesses, especially physical, dietary, or of liquors.

CARCINOMA: TREATMENT — PAST, PRESENT, PROSPECTIVE*

Laura House Branson, B.S., M.S., M.D.,
Iowa City

CARCINOMA

1. Introduction—Mortality, sex, age, condition.
2. Treatment—Past, present, end results.
3. Prospective treatment.
4. Prophylaxis and immunity.

INTRODUCTION

Mortality—From general statistics available in the study of carcinoma we find that it ranks third in the causes of death; pneumonia and tuberculosis alone taking precedence. While this estimate is generally accepted as correct, yet there may be variations and modifications due to geographical conditions that control food supplies, industries, and thermal changes; such data however, have not been sufficiently verified and consequently cannot be used in the compilation of reliable statistics.

Present reports show an increase in the mortality of carcinoma; Hoffman[1], chairman of the committee for cancer control, reports 80,000 deaths annually in the United States from cancer, with an increase of two and one-half per cent. annually, in a population of 100,000,000.

Pond[2] in a paper entitled "The Cancer Problem," shows that the mortality from cancer in Iowa has increased 50 per cent. in the last ten years preceding 1916; and his prediction that in Iowa's population of 2,000,000 in 1916 there would be 2,000 deaths from cancer, has been fulfilled.

In regard to all present statistics we must take into consideration the improvement in diagnostic methods as well as the fact that there is now a more uniform system of collecting data than formerly.

As I write I notice the following in the London Letter of March to the American Medical Journal.[3] "For the first time the mortality from cancer has overtaken that from consumption in this country." This report brings the mortality from cancer up to second in rank in Great Britain.

Sex—Lerche[4] in a tabulation of 52,285 autopsies reported by seven different authors, found 2,183 cases of males and 2,078 females with carcinoma; this table would show that carcinoma occurs with about the same frequency in male and female.

In location frequency;
The intestinal tract ranks first;—
Cancer of the stomach easily takes the lead.
Cancer of the uterus ranks second.
Cancer of the breast ranks third.
Cancer of the mouth fourth.
Cancer of the skin fifth.

Carcinoma of the lip, mouth, tongue and esophagus are to be found in men more frequently than in women. Cancer of the stomach occurs with almost equal frequency in both sexes.

Martin's statistics of 20,000 cases of cancer of stomach show 58 per cent. men and 42 per cent. women.

In men, cancer of the stomach is first and cancer of the esophagus is second in point of frequency.

In women, cancer of the uterus is first and cancer of the breast second in frequency.

When we consider carcinoma from the standpoint of sex and age, we find that the question assumes far different proportions; Hoffman[5] says at forty-five and older, 9.6 per cent. of all deaths in males are due to malignant growths; while 18.6 per cent. of all deaths in females forty-five and older are due to malignant growths.

Age and Carcinoma—We have grown accustomed to looking upon the cancer age as above thirty-five or forty years; as a general rule this is correct, but there are many exceptions: Of the 921 cases in Smithies' Clinical Study of Carcinoma of the Stomach[6], eighteen cases occurred under thirty years,—averaging twenty-seven and one-half years. Cancer of the esophagus is on record as occurring at the ages of nineteen, twenty, twenty-three and twenty-four years.

Carcinoma in Children—In a study of the cancer age we would be grossly negligent did we not take into consideration cancer in its relation to childhood; for childhood and cancer are not entirely foreign to each other. In a recent paper, Frolich[7] reported Phillip's eighty-seven cases of cancer in children, 46 per cent. of which were in the digestive tract,—12 per cent. of these were in

*Read at the Twentieth Annual Meeting of the State Society, Iowa Medical Women, May 8, 1917, Des Moines.

1. Hoffman—Journal Surgery, Gynecology and Obstetrics, January, 1917.
2. Pond—Journal of Iowa State Medical Society, March, 1917.
3. London Letter, Journal of American Medical Association, April 21, 1917.
4. Lerche—Journal Surgery, Gynecology and Obstetrics, July, 1916.
5. Hoffman—Same as 1.
6. Smithies—Clinical Studies of 921 Cases of Cancer of the Stomach, 1916.
7. Frolich—Journal American Medical Association, March 28, 1917.

the liver, two of which were three and fourteen months of age respectively. Frolich also reported Merkel's 111 cases of cancer in children, thirteen of which were in the liver,—seven of these were under ten years of age. He also reported his own case of cancer of the liver in a child of nine months,—detected by explorative laparotomy.

The youngest case of cancer on record is that of an infant of three months. Cancer of the uterus has been reported in a woman of eighty-eight years.

Neither sex nor age furnishes a barrier to the inroads of carcinoma nor is any condition in life exempt from it.

Treatment: Past—Prior to the fourteenth century all growths, all kinds of tumors were treated in the same general manner,—namely by the use of chemical caustics in the shape of pastes, ointments or solutions. These were applied to any and every growth, by any and everybody,—the educated and the ignorant, the ethical physician and the charlatan, all shared alike in this privilege of ridding mankind of this evil visitation. For a while these growths were undifferentiated; then the term cancer (Krebs) was applied to all malignant growths. Later this term was limited to the designation of certain malignant growths having the general symptomatology that we now ascribe to carcinoma.

These cancer cures consisted of arsenic, zinc, the alkaline caustics and the mineral acids; arsenic being the most common ingredient. Countless cognomen were attached to these so-called cancer cures. Egyptian ointment, Vienna Paste, Caustique Noir, Father Come's Paste, etc.

From the fourteenth to the nineteenth century we find records of a continuous struggle for supremacy between the paste and the knife treatment of cancer; and although surgery in general made long strides in its progress during these 500 years, yet the treatment by chemical caustics easily kept the lead. At times the knife and the paste were combined in the treatment of the same growth; but the trend of the consensus of opinion both of the medical fraternity and of the laymen was in the direction of the possible cure of cancer without the knife. During the greater part of the nineteenth century caustics were used more generally by medical men either separately or in conjunction with the knife; scarcely a medical book during this period failed to list these remedies in the therapy of cancer. But the exploitation of these cures for financial gains by persons who fail to realize the fact that true medicine has for its foundation the great desire to relieve humanity of physical ills, was the real cause of the downfall of these so-called "Cancer Cures" that had held the center of the stage for 2,000 years.

Present Treatment—This falling of the famous cancer cures of past centuries into disrepute was accomplished during the latter part of the nineteenth century when medical men generally arose in condemnation of the use of pastes and advocated unreservedly the use of surgical means in all operable cases of carcinoma; defining as operable all carcinomata diagnosed before metastasis has taken place.

Surgery claims superiority because of the following facts:

That the knife removes the growth more completely than does the paste.
That there is less of pain.
That there is generally less of cicatricial tissue.
That regional recurrences are less apt to follow surgical measures.

We are immeasurably encouraged when we read of many cures in resection of large intestines for malignancies; of many cures of cancer of the breast, of the fundus uteri, of the lip, of the stomach, when early operative measures have been used.

X-Ray—For some years rœntgentherapy has been an interesting study in its relation to cancer; and the x-ray is now acknowledged to have its own particular place in cancer therapy; not curative perhaps in itself but an adjuvant to the knife in operable cases, and of particular service in inoperable cases because of its amelioration of pain, its control of hemorrhage and its sometime limitation of local progress.

Radium—Occupying a significant position in present day cancer therapy is radium; while physicians generally have been much handicapped in regard to the use of this remedy, nevertheless all are privileged to study results. It is to be hoped that in radium a therapeutical agent of great value has been found; at present the majority of physicians see in its use the same results that have been obtained in rœntgentherapy, the difference in time limit in obtaining these end results being in favor of radium.

Prospective Treatment—With improved technique in radium therapy and rœntgentherapy both may well be placed high in the prospective treatment of carcinoma and decided opinions should be held in reserve until their merits or demerits have been sufficiently proven. Suffice it to say that no remedy is being so widely discussed in our most conservative medical journals as this one of radium. All radiation therapy

may be spoken of collectively as all rays are similar, differing only in their effect on tissue as to velocity, penetrability and selective action.

J. F. Percy's Method[8]—Another recently advocated cancer therapy is Percy's low heat method; this is based on the principle that a low degree of heat has a greater penetrability in cancer tissue than has a high degree. Time will prove the efficacy of this method.

Beebe and Horowitz[9] are at present advocating the use of a remedy based on the principle that cancer is caused by a protein infection; the remedy is said to be composed of non-toxic proteins which when given internally act as antigen to the protein invasion that has already taken place. Time will also demonstrate the validity of this claim.

In the prospective treatment of carcinoma there will be many things to take into consideration, most important of which are:

The possibility of the discovery of the etiological factor. The alarming mortality from cancer and the fact that as times goes on there is no decrease in this mortality, demand that there must be a marked improvement in diagnostic methods; following this improvement earlier diagnoses will be made and differential diagnoses will be more accurate, and the possibility of effecting cures by surgical procedures will be in the ascendancy.

There must be a more intensive study of metastasis; research has already revealed the fact that cancer is neither hereditary nor constitutional,—that it has an inherent peculiarity, a power to metastasize; that this metastasis is carried on chiefly by the lymphatics and that metastatic deposits may be found anywhere,—in any tissue where lymphnodes are present; that metastasis takes place earlier sometimes than at other times; that there may even be metastasis of bone tissue and that such may be demonstrated by the x-ray; that these skeletal metastases may be of slow development; and that clinically bone metastasis may be diagnosed by the presence of pain in bone structure.

All of these facts are of the utmost importance in the treatment of this malignant neoplasm. Furthermore that the so-called pneumonia of cancer is often nothing more nor less than metastatic deposits in the lungs occurring from a regional carcinoma.

Of the utmost importance also is the fact that although there is no heredity in cancer there is a precancerous tendency; this is demonstrated by the piling up of epithelial tissue which may or may not develop into cancer later.

Benign neoplasms may retrograde into malignant growths; three to five per cent. of fibroids are known to so degenerate; ovarian cysts and uterine myomatas may also retrograde.

Scar Tissue—Another fact that we will have to face in prospective treatment of cancer is based on the assumption that as cancer and other malignant growths may develop in scar tissue, there will be a serious increase in malignant growths in men from scar tissue at site of wounds received in the present war.[10]

One of the most deplorable facts that we have to face just now and always, is this; that a great percentage of women lose their lives from childbirth, directly or indirectly. De Lee[11] says that 20,000 women die annually thus in the United States; and that over 50 per cent. of women who have borne children bear marks that testify that it is not a normal process. Many of these deaths, much of this mortality is from cancer; cancer of cervix uteri, of fundus uteri, of breast from lactation, of ovary, all directly or indirectly due to conditions relative to childbirth. It is appalling that this death rate is no lower now than it was in years past.

Prophylaxis and Immunity—All of this leads up to the prospective treatment of carcinoma by means of prophylaxis and immunity.

Knowing then that there is a precancerous tendency, the use of the knife at such a time may be followed by permanent cures in the great majority of such instances.

Knowing the tendency of cancer to metastasize, operative procedures should be resorted to before this has taken place; there might be one exception to this and that is metastasis of skeletal tissue; as this is exceedingly slow in its development the primary tumor may be removed even after this bone metastasis has been detected and the life be saved for many years.

According to Bloodgood[12], incomplete operations in the earlier and most favorable stage of cancer give worse results than complete operations at a later stage; this means that even an early operation must be a complete radical one to prevent recurrence.

Knowing that carcinoma of the lip and of the esophagus are prone to occur in men and that constant irritation is a strong etiological factor here, men should be taught that means of prevention often lie within themselves. A word to

8. Percy—American Journal Obstetrics, Aug., 1915, page 298.
9. Beebe and Horowitz—New York Medical Journal, May 15, 1915; October 2 and 9, 1915; February 19, 1916.
10. London Letter, Journal American Medical Association, April 21, 1917.
11. DeLee — Principles and Practice of Obstetrics, 1913, page 12.
12. Bloodgood—Medical Herald, November, 1913.

the wise is, or should be, sufficient; that it often is not is to be deplored.

Knowing that cancer is prone to develop in scar tissue and that benign tumors may retrograde into malignant tumors, such precautions should be used as each condition in itself will indicate.

All tumors of the breast should be removed as soon as detected,—whether they be benign, border line, or of known malignancy; for here in this locality there is often early malignancy in benign neoplasm. According to Stone[13] there is great tendency to form metastatic growths in the ovaries from primary malignant growths in the breasts.

Knowing that much of the cancer mortality among women is due to childbearing and that many deaths from cancer occur just before, during, or subsequent to the menoplause which is the closing-period in the reproductive cycle, and also that these deaths are directly traceable to the conditions incident to childbearing, these conditions should be remedied as completely as possible and the normal be made to obtain. More efficient service should be rendered woman in this her hour of need,—in her supreme effort to perform the duty that nature has imposed upon her. But as nature has so inadequately prepared woman for this duty, the labor attendant upon perpetuating the human race is far from a normal one; in fact this statement that as a general rule childbearing is a pathological process and not a physiological function may well be recognized as true. Consequently woman demands the best of medical service at this time; and often the highest surgical skill is necessary to prevent the sequellæ that may cause her to yield up her life that another may live. Greater love hath no one than this.

When the etiology of carcinoma has been determined, then the subjects of prophylaxis and immunity will assume gigantic proportions in the study of this malignant growth; until then we may say of this neoplasm with almost absolute certainty: carcinoma in itself is always progressive; it is usually rapid; and it runs but one course and that to the grave.

Case Reports

Mrs. T., aged fifty, married, four children. At forty-four years of age noticed lump in right breast —advised by family physician not to operate—kept fact of growth secret from family six years. Then consulted physician for stomach trouble, as there had been regurgitation of all solid food for past three weeks. Upon examination a secondary growth was found at pylorus. Death ensued from starvation. This woman no doubt could have been cured had growth in breast been removed when first noticed—when it was purely a local manifestation.

Mrs. S., aged forty-nine, married, four children. Abscess in left breast following birth of first child twenty-eight years ago. At birth of second, third and fourth children there was tenderness in same breast during lactation. Period of quiescence for twenty years—then pain in growth. Operated. Return in two years with metastasis in right lung as shown by x-ray. Death from this metastasis in right lung. Operation in this case was performed too late.

Mrs. J., aged fifty-three, married, three children. Three years previous patient consulted physician for hemorrhage from vagina—was told that it was a "freak of nature,"—that she was growing young again. Consulted second physician who said it was "female weakness." Consulted third physician who said there was "nothing serious" the matter. Thus passed two years! The fourth physician was then consulted,—upon examination an extensive inoperable cancer of the uterine fundus was discovered. This case is illustrative of delayed diagnosis; had an early diagnosis been made here, a permanent cure might have been affected. Had a late diagnosis been made upon the appearance of the uterine hemorrhage, this woman's life might even then have been saved by operative procedure, because metastasis in carcinoma of uterine fundus generally occurs late in the history of malignancy.

13. Stone—Journal Surgery, Gynecology and Obstetrics, April, 1916; page 407. Metastastic Carcinoma of the Ovaries.

TREATMENT OF ACUTE GONORRHŒA BY THE GENERAL PRACTITIONER

CHARLES D. ENFIELD, M.D., Jefferson

No one who reads medical literature, including the present writer, needs to be told that the subject of this paper is a hackneyed one, concerning which much has been written, and about which there is at the present time little thought or discussion; yet on the other hand who will deny that most acute urethritis in the male is treated carelessly, half heartedly, and in the main, badly? The general practitioner is not interested in the treatment of this disorder, yet it is he who has most of it to treat. A large part of the literature of the subject has been written by specialists in genitourinary diseases and has seemed to the general practitioner to be excessively technical; the procedures outlined to involve more special skill and more effort than was commensurate with either the reader's interest in the subject or the expected remuneration. The purpose of this effort then, is to describe a method of treatment which without being too technical and laborious to be practical, is still sufficiently thorough and

accurate to give good results. The methods here suggested are not up to the standard of the genitourinary man, probably; such is not the plan. However, being simple procedures that everyone who practices medicine should and probably does know, they will, if persisted in, give almost uniformly good results and that with an expenditure of care and effort which anyone who cares to treat gonorrhœa at all should be willing to make.

The histories given by venereal patients are notoriously undependable; inquiries should be made however as to whether the current infection is the first of its kind, as to its duration, character of previous treatment, if any, the time intervening between the suspected intercourse and appearance of the discharge, etc. The answers may serve to put one on ones guard for the remainders of a previous infection, which will call for a variation in the treatment and in the prognosis as well. Oftentimes a stricture or an old patch of chronic granular urethritis will delay the termination of a fresh infection far beyond the usual period.

Examination should include inspection of the penis; to determine the approximate amount of discharge and its character, the anatomical peculiarities which may be present (phimosis, for instance) possible existence of chancroid (Ducre-Unna infection) or the initial lesion of syphilis which may complicate or may even be the sole cause of the discharge which the patient has concluded is gonorrhœa. At the same time the glands of the groin should be palpated, as should the epididymes and testicles and the course of the penile urethra itself; this last to determine whether there exists an intraurethral chancre or an infected periurethral gland. Now, also, is the time to make a smear, on a glass slide, for microscopic examination of the discharge. This will be stained with aqueous methylene blue, and if there exists any doubt as to the identity of the organism, by Gram's method as well.

As the next step some modification of the two glass test should be used. The simplest and original one is the one the writer usually uses. The patient is instructed to pass his urine into two conical test glasses of about six ounces capacity, and to try to divide the amount somewhere near equally between the two. In the early acute case where the infection is confined to the anterior urethra the first glass will be seen to contain pus and shreds of epithelium; the second glass will contain clear normal looking urine. Should the infection already have invaded the posterior urethra, however, the second glass also will contain pus. If the infection is confined to the posterior portion, the second glass may contain the bulk of the purulent matter and the first one be nearly clear. Any doubt as to whether the turbidity might not be caused by phosphates will be cleared up by adding a few drops of nitric acid to the urine.

The simple procedures mentioned will have determined, in a space of not over ten minutes, whether the patient has gonorrhœa, whether it is acute, anterior or posterior, whether severe or mild, and whether there exist any of the more common complications or anatomical peculiarities which would serve to modify the treatment and prognosis. This is not much time to spend on a diagnosis, yet unbelievable as it may be, many cases of acute urethritis are treated, and by physicians, with no examination whatever, not even a simple inspection of the parts.

My initial treatment for acute cases is based upon the injection into the urethra of primarily, a one-half per cent. solution of protargol, or a one-half per cent. solution of nargol, or albargin or a two per cent. solution of argyrol. I like the protargol best and usually start with it. This is injected with an asepto (air pressure) syringe until the urethra is comfortably full—and I always make the injection myself, with the patient standing, penis held over a bowl; the patient is then instructed to compress the urethra at the corona of the glands with the thumb and forefinger. The solution is thus retained in the urethra for a full five minutes, by the watch. This injection is repeated once a day, or if the case is not progressing favorably, twice a day, by myself, during the time that the infection is anterior. Each day the two glass test is made prior to the treatment and every third day the discharge is examined for gonococci by means of a simple smear stained with methylene blue. Further, if there is inflammatory phimosis, the patient is instructed to soak the penis for half an hour twice a day in hot boric acid solution. If there is much pain on urination he is given fifteen grains of sodium citrate four times a day, in water. If there are painful erections he is given one or two codeine tablets of ¼ grain, or twenty to thirty grains of a bromide to take on retiring. He is instructed to take a prolonged hot hip bath on retiring each night, to drink all the water he can, to keep off his feet as much as is consistent with his occupation, and to avoid alcohol and highly seasoned food. He is also instructed to carry the weeping penis in a gonorrhœa bag with a layer of cotton in the bottom. This bag may be purchased at the drug store, or a very good one may be made by pinning the foot of a

stocking or a clean tobacco bag to the underwear. He is also warned to be cleanly and to keep the discharge away from the eyes.

The strength of the injection is increased by ½ per cent. every three or four days, up to 2 per cent. in the case of protargol or nargol and to 5 per cent. if argyrol is used. It should never be strong enough to cause much pain or burning.

Should the infection reach the posterior urethra, as evidenced by increasingly frequent and imperative urination, and pus in the second glass of urine, the injection must be made to enter the posterior urethra also. This can be done by using more solution and instructing the patient to strain as though trying to urinate after the anterior urethra is felt to be full. An alternative plan, better in an obstinate case, is the injection into the posterior canal of a few drops of one per cent. silver nitrate solution with a Keyes-Ultzmann syringe, after making the anterior injection in the usual way. This is usually not necessary as the posterior infection will ordinarily yield satisfactorily to the posterior injection given in the first manner. It is well to treat twice a day during the course of the posterior infection.

When the posterior urethritis, if any occurs, is over and the remaining discharge is glairy and free from gonococci, I am in the habit of employing a daily injection of silver nitrate solution, about ¼ of one per cent. in strength and given in the same manner as the earlier treatments, for three or four days. This usually terminates the period of discharge. Then three or four days are allowed to elapse without treatment, and if there is still no discharge, and the first and second urines are free from shreds, a final examination, preliminary to releasing the patient, is made.

This consists in milking out the prostate and seminal vesicles per rectum and making a smear of the secretion thus obtained. If no gonococci are found in this smear, and the prostate and testicles are normal to palpation, a steel sound, size twenty-five French, is passed into the urethra. If it encounters no undue resistance, the penile urethra is massaged about it and any secretion which may adhere to the sound is also smeared and examined. Should there be any marked tenderness at any point along the urethra, or any enlargement of the periurethral glands, it will be well to make an urethroscopic examination, which usually, however, is not necessary. The result of this examination being negative, the patient is discharged as cured.

It is not claimed for these simple measures that they constitute the ideal treatment; that they introduce anything new into the therapeutics of gonorrhœa; nor that they will invariably be followed by a "cure." The method however is reasonably thorough, keeps one well informed as to the status of the case at all times, and yet is not unduly time consuming. I have had no difficulty in persuading all classes of patients to come daily, or if need be, twice daily, for treatment. They are very willing to do anything that looks toward a thorough ultimate cure. No emphasis need be placed on the importance to society at large of curing all such cases as promptly and thoroughly as may be; the thoroughly treated patient is not the one who contributes to the spread of the disease and neither is he the etiologic factor in those too frequent tragic cases in which "latent" gonorrhœa in the male becomes frank, virulent, malignant gonorrhœa in the pure and innocent wife. If one lacks sympathy for the patient himself, let him be thorough for the sake of the wife who may later lead a healthy, happy, useful life, or become a chronic invalid accordingly as his treatment has been careful and thorough or careless and indifferent.

EHRLICH'S SUCCESSOR

Our German exchanges of October 10 quote the Frankfurter Zeitung to the effect that Prof. W. Kolle, chief of the Institute for Bacteriology and Hygiene of the University of Bern, has been called to Frankfurt as successor to Ehrlich in the Institute for Experimental Therapy and also in the G. Speyer-Haus. Wassermann of Berlin was called first, but he yielded to pressure from the local scientific authorities and finally declined. Prof. Hans Sachs, Ehrlich's co-worker, has been appointed director of the Institute for Experimental Therapy and Professor Morgenroth of the Charite, Berlin, is being considered for director of the Speyer Institute (stellvetretende Direktoren).—Journal of the American Medical Association.

LEUCOCYTE COUNT AS A GUIDE TO TREATMENT OF WOUNDS

Dr. P. Lindemann in British Medical Journal, has called attention to an interesting fact in relation to treatment of wounds. By observing the leucocyte curve, the activity of the infection and the resistance could be determined; if the resistance was high, the activity of the infection was lowered. On the other hand, if the resistance was weak, the activity of the infection was increased. The significance of these observations in the treatment of wounds is that if a daily record of the leucocyte curve is kept, and a sudden rise should occur, it would show the need of further treatment; whereas if the curve showed a weak or latent infection, the wound was doing well.



COLONEL GEORGE D. DESHON

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COLONEL GEORGE D. DESHON

Colonel George D. Deshon of the Army, so well known to the profession of Des Moines, died at his home in Brookline, Mass. on June 24, 1917. Dr. Deshon's contributions to the advancement of the medical service of the Army, entitles him to more than a passing notice. The writer enjoyed for many years a close friendship with Dr. Deshon, and feels it a privilege to draw attention to many features of his life. There were two things that particularly distinguished Dr. Deshon, one was his love for the Army and what was synonymous—his love of country—and second, his love for the medical profession. Col. Deshon graduated from West Point with a group of men who later in life attained high distinction in army life, but he cast aside the possibilities of military distinction for a more humble but not less useful place in the service of his country, and resigned to study medicine in order to fit himself for the surgical service. Notwithstanding this apparent sacrifice, he was passed from one rank of the service to another in the ordinary and usual way, the same as a surgeon from civil life.

At the time Dr. Deshon changed his service to the surgical arm, there was but little to attract men except the real and unqualified love for the profession which gave opportunities for usefulness. When he had reached the rank of major, he felt that the unfairness of the law governing the medical service would soon bring the service into disrepute. The number of vacancies in the surgical service at a peace basis was more than thirty, and the vacancies were constantly increasing; very few medical graduates who could pass the required examinations were willing to enter the army. This was about six years after the close of the Spanish-American War, and the shameful loss of life from preventable diseases were fresh in our minds. The position then occupied by Major Deshon, rendered it impossible for him to appear actively in the matter. Even as it was, the Chairman of the House Committee threatened all sorts of disastrous things, and the honor fell to the writer to bring our combined argument to bear on the said chairman but with little effect until Dr. W. S. Conkling saw a way which was effectual and counted. The bill was then let out of committee and soon became a law; it had passed the Senate and had the endorsement of President Roosevelt and Secretary of War Taft. To Col. Deshon, primarily should be given the credit for the liberal army medical law in force when the present war was declared.

Dr. Deshon was a devoted student of medicine and availed himself of every opportunity to increase his knowledge of medical and surgical practice. He had the instincts of a gentleman by inheritance and cultivation. The recollections of our association will never fade, and the ten years will remain among the brightest of our experiences. In this expression we are joined by many of our professional friends in Des Moines, and we doubt not by many others at stations and reservations where he may have been located.

Col. Deshon's domestic life was most charming and happy. Few have been more fortunate than he until the great sorrow of his life came in the death of his daughter to whom he was most devotedly attached. One of the most charming features of his life was his affection for his family and for his friends; it was of the truest kind.

The following biographical sketch we take from the Boston Medical and Surgical Journal. For the most excellent photograph we are indebted to a near relative living in Dixon, Ill., Mrs. W. J. McAlpine.

Col. George D. Deshon, chief medical officer on the staff of General Clarence R. Edwards, commander of the Department of the Northeast, died suddenly at his home in Brookline, Mass., on June 24. Col. Deshon, whose record for service during the Philippine and Cuban campaigns had established, in military circles, his reputation for a brilliant officer, was asked by General Pershing to take command of his medical staff, in France, which position he was obliged to refuse because of ill health.

Col. Deshon was born in Brookline, August 5, 1864, and attended Dartmouth College. From there he entered West Point and upon the completion of his course there, was appointed to the same regiment with General Edwards, the 23d Infantry, at Fort Wayne, Ind. Shortly after his marriage he resigned in 1890, and studied medicine at Bellevue Medical College and the University of Pennsylvania. He then re-entered the army as a surgeon and was given the rank of Major. He was sent to the Philippines and achieved distinction. On his return he was appointed commandant of the Army and Navy General Hospital at Hot Springs, Ark. Subsequently he served in different capacities until appointed superintendent of the Ancon U. S. Canal Hospital at Panama. Under his supervision, the eleven army canal posts were brought to as high a mark as any in the government. Upon the transfer of General Edwards to the new northeastern department, Col. Deshon was chosen to accompany him. On arriving at Boston, Col. Deshon was not well, and for about two weeks was at the Massachusetts General Hospital. He did not, however, fully recover his health before he was stricken with death.

Colonel Deshon was a member of the Army and Navy Club, Washington; the Psi Upsilon fraternity, the Society of Colonial Wars in the Commonwealth of Massachusetts, the Massachusetts Society of the War of 1812, Massachusetts Society of the Military and Naval Order of the Spanish War, Massachusetts Society of Sons of the American Revolution and the Society of the Army of the Philippines.

He is survived by a widow and a son, Captain Deshon of the field artillery, who is at the present time on sick leave in California. Of Colonel Deshon, General Edwards said:

"He was a loyal and devoted friend, and the ideal soldier-doctor. I do not believe there was a man of higher character in the United States service than he. Although the strictest kind of a disciplinarian, he was the sort of man that men loved and honored. The loss to the service will be serious."

RANK AND AUTHORITY OF MEDICAL OFFICERS

At this time when it is proposed to call out medical men of military age and efficiency by special legislation for service in the Army, there are certain things which should be considered seriously. In the first place certain duties fall upon us in moments of danger that cannot be measured by money or rank. The medical profession possess certain skill and knowledge which can be obtained only through years of training. This skill and knowledge cannot be obtained in a year's service in a training camp as in the case of a soldier or subordinate officer. Therefore, as armies cannot be maintained without medical officers, the failure of medical men to offer their services to the government, is equivalent to deserting the colors, and force must be employed. Again, the failure to enlist will deprive the great number of men called out for service, of medical attention in guarding against disease and proper and efficient attention of sick or wounded. These soldiers are not responsible for the unfair treatment of medical officers by the Government and should not pay these shortcomings with their lives.

It is to be sincerely hoped for the good name of the medical profession and for the sake of future rewards that we now without compulsion show to the country the bigness of the medical profession and if there is littleness and meanness in our ranks, let us hide it if possible.

While we are saying this, let us not forget that we are entitled to better treatment; that our services are of value equal to any in the service; that we should have rank and authority equal to the value of our services; but we cannot resort to the methods of the railway unions in securing recognition, but rather by our loyalty and largeness of view, show what is due us. We know what is due us and we have the right to insist upon it. The lesson of 1898 is fresh in our minds. We remember how individual members of the profession were treated, how some brave men in our profession were brought to disgrace because criticism fell as it should on certain men in high place. We have not forgotten how Dr. Hammond was treated in the Civil War, but all this should be forgotten in this hour of need and in all haste respond to the call of our country. But we must not forget that the government should remedy these things in the interest of efficient service, not on our account alone but for the good of our country.

It is not amiss to record the candid declaration of the British war office touching the absolute necessity of a better representation of the surgical service in our war office.

In 1904 the British war office was reorganized under Lord Esher, who was requested to provide for medical representation in this office. He replied:

"The Army Council is not and cannot be a representative body as regards the several arms and departments. The Royal Army Medical Corps exists to serve the army in a most important capacity, but the first object must be to create and maintain an army and this is the function of the Army Council."

This was the opinion of Lord Esher in 1904. Recently the same man writes:

"How much of the suffering undergone by our soldiers since the war began has been due to the short-sightedness of my committee, and notably of myself, will never be known. Certainly the control

of the Adjutant-General's branch over the Royal Army Medical Corps was and is responsible not only for the early failure to grip the medical factors of the war, but they hampered conditions under which the surgeon-general has worked. His triumphs and those of the Royal Army Medical Corps have been achieved in spite of obstacles that the subordination of science to ignorance and of elasticity to military discipline explains but cannot justify."

The above represents the conditions in our own war office today. Must we repeat the awful experiences of Great Britain? Senator Owen has introduced an amendment to Senate Bill 1786, which will, if passed, bring a certain relief to the situation.

On page 7, line 20, insert the following at the end of Section 10; Provided, That hereafter the commissioned officers of the Medical Corps of the Regular Army shall be distributed in the several grades as follows:

		Per Cent.
Major Generals	....	.25
Brigadier Generals	....	.25
Colonels	....	4.00
Lieutenant Colonels	....	8.00
Majors	23.5	.....
Captains	32.0	.....
Lieutenants	32.0	87.5
		100.00

Provided, That when called into service the numbers of the officers of the Medical Reserve Corps shall be seven to the thousand of men in the National Guard and National Army and the relative grades of the officers of the Medical Reserve Corps shall be the same as the grades of the Regular Army.

The President shall have authority to appoint officers of either corps as "consultants," with the duty of acting in an advisory capacity, making inspections and reports on medical, surgical, or sanitary questions, and such other duties as may be required by the chief of the Medical Department.

THE DEVELOPMENT OF BRITISH SURGERY AT THE FRONT

In the June 2, 1917, number of the British Medical Journal, may be found an exhaustive description of the manner of dealing with injured men adopted in the British Medical Service by Surgeon-General Sir Anthony Bowlby, K. C. M. G., and Colonel Cuthbert Wallace, C. M. G. A. M. S., Consulting Surgeon, British Armies in France. At this time when surgeons from civil life are being sent to the seat of war in Europe, a full knowledge of the developed methods by British experience covering a period of three years, will be of great value. It is well known that while England has been engaged in many wars, she was utterly unprepared for a struggle of the magnitude of the one she now is engaged in. To the credit of the surgical service it is admitted that this service has been able to meet the exigencies of the war better than any other, but there were many shortcomings which have been remedied as rapidly as circumstances would permit.

We all deplore the necessity of sending our own men into this struggle and we all feel that the loss of life should be reduced to the minimum. Thoughtful men know that the time has come when great problems must be settled and settled as in 1861 by force of arms; that life must be sacrificed and suffering endured. Thoughtful men must know that the only agencies that can be employed to lessen this loss of life and this suffering, must come through the development of the army medical service. We have been a peace loving nation and have entered war only when it apparently could not be avoided. Our best and most experienced medical officers are too few in number and have had too little authority to meet in any adequate manner the needs of the great army to be brought into the field; hence it will fall upon medical officers drawn from civil life to meet the great emergency with the best their own native resources and ingenuity can devise. Therefore we suggest that the papers of Surgeon-General Bowlby and Col. Wallace be read with great care. This exhaustive paper is supplemented in the same number of the Journal by papers by Colonel Sir Wilmot Herringham "Penetrating Wounds of the Chest at the Casualty Clearing Stations;" "The Administration of Anesthetics at the Front" by Captain Geoffery Marshall; "Color Changes Seen in Skin and Muscle in Gas Gangrene" by Col. Wallace; "The Methods of Spread of Gas Gangrene into Living Muscle" by Captain J. W. McNee; "The Successful Conservative Treatment of Early Gas Gangrene in Limbs by Resection of Infected Muscles" by Lieut.-Col. C.H.S. Frankau and Captain Hamilton Drummond. These valuable papers occupy twenty-seven double column pages of the June 2nd number of British Medical Journal.

A CRITICAL SITUATION

The government is raising an immense army of volunteers and conscripts to carry on the war to a successful and, we hope, an early termination.

Every army must be supplied with a personnel of medical officers of adequate number and well trained.

While provisions have been made to raise the required number of men for the fighting force; it has been left to members of the medical profession of this country to come forward voluntarily, seeking commissions in the Medical Reserve Corps.

Only a few of the total number required have applied for commissions. This means that unless immediate action is taken by the profession voluntarily, the men in the army now being organized will be without sufficient medical care. Such a condition would be more than critical and dangerous for the success of our army and the cause in which we are enlisted. The medical officer plays a most prominent part not only in keeping the army on its feet and physically fit for fighting, but in returning to the ranks a large percentage of those who have been temporarily put out through casualties.

How soon will the medical profession of the United States as a whole wake up and realize that doctors must come forward and volunteer their services to the government.

In civil life, when great casualties occur, the doctor readily offers his services and usually is the first on the scene to save human life. How much more important is it then, that in this critical situation, he should come forward and offer his valuable aid to preserve not only human lives, but the life of the nation itself?

Application blanks for commissions in the Medical Reserve Corps are being printed in many medical journals or will be sent to you by the Surgeon General's office or can be secured from members of the local board of examiners.

If you are not acquainted with such a board, the editor of this journal will be glad to advise you. One-fifth of the active profession of the United States is all that is required to supply the army now being raised. Be a part of the one-fifth.

THE MEDICAL PROFESSION OF AMERICA MUST SUPPLY ITS QUOTA OF DOCTORS FOR THE ARMY

In round numbers, there are about 150,000 physicians listed in our medical directories. Deducting from this number 50,000 names of those who are not in practice or are physically incompetent, there are 100,000 doctors that should be available. Of this number the Surgeon General's office requires 20,000 or one-fifth of the active practitioners, as officers in the Medical Reserve Corps of the United States Army.

The unfounded and possibly maliciously circulated reports of the casualties among the medical profession in the armies abroad have deterred many from applying for commissions. In reality the number killed on the entire Western front from the beginning of the war to June 27, 1917, a matter of three years, was 195.

The lowest commission offered a doctor is first lieutenant which draws in pay $2,000 a year; captains receive $2,400 and majors $3,000. The cost of equipment is about $150 to $175, according to the desires of the individual. As in civil life, some of us are satisfied with a $25 suit of clothes while others pay $50 and this applies to a medical officer in purchasing his outfit in the way of uniforms, blankets, etc.

The individual outlay when once in the service is principally your expenditure for food, or mess as it is called in military circles, and this will average about $25 a month, or about $300 a year, meaning that a first lieutenant should have at the end of the year, or to send home to his family or bank, about $1,700, a captain about $2,000 and a major at least $2,500.

While this information is of interest to those contemplating applying for commissions in the Medical Reserve Corps, the fact remains that in America we have more than a sufficient number of doctors to adequately supply the demand of the Surgeon General's office without hardship to the civilian population.

The need of doctors is not alone for the mobile army but also in concentration camps, evacuation hospitals, base hospitals and on transports. It is of decided advantage to volunteer your services and receive the benefit of the very necessary training accorded physicians in medical training camps. It is a safe assumption that for those who receive such training and show their aptitude for the service, advancement will be rapid.

Applications for commissions in the Medical Reserve Corps will be found printed in medical journals or will be sent to you by your local examining board or by the editor of this paper. Apply for your commission now. Your country needs you.

PATRIOTISM WILL TELL

Much has been said and written unofficially about the possibility of conscripting the medical profession to supply the desired quota of physicians for the immense army that our government is now raising.

Physicians are as essential to the success of an army as munitions and if our troops are to be the deciding factor in the terrible conflict now raging in foreign lands, the Surgeon General's office must be supplied with a sufficient number of doctors in the Medical Reserve Corps, to take care of the full complement of troops in the field, on transports, in evacuation hospitals and base hospitals, in concentration camps, etc.

While it is no reflection upon any man's honor to be conscripted, at the same time we feel sure that a sufficient number of doctors will volunteer their services at an early date, which means considerable to the individual so applying.

It is reasonable to suppose that those who volunteer early and receive the benefit of instruction in a medical training camp, will be the ones who will receive advanced commissions. The lowest commission offered to a doctor is that of first lieutenant and it draws the pay of $2,000 a year; captains receive $2,400 and majors $3,000.

The principal expense to a medical officer will be his mess charges or food, and this should not be over $25 a month or $300 a year in round figures.

Whatever may be the pay, the fact remains that the Surgeon General must have at least 20,000 physicians in the Medical Reserve Corps to supply the present demand, and we feel that the patriotism of the medical profession will be the stimulus that will induce a sufficient number of doctors to offer their services voluntarily.

Blanks for commissions in the Medical Reserve Corps are now appearing in medical journals or will be supplied you by the board in your own state. If you do not know the location of this board, the editor of this paper will be glad to inform you or send you a blank upon request.

NO NEED FOR DRAFTING THE MEDICAL PROFESSION

It is to be regretted that there has been so much hysteria in regard to procuring the medical force of the new national army. It is still more to be regretted that this hysteria—absolutely undeservedly—has reflected unfavorably on the medical profession. As late as August 1 the Associated Press sent out a statement to the effect that a petition was being circulated which declares that the method of recruiting the medical corps of the army by commissioning reserve officers in that corps who volunteer has proven a failure and asks that in behalf of the welfare of the nation a draft for physicians be made.

This is merely an echo of what many men with the best motives have advocated. It is based on the assumption that the newspapers have had correct figures regarding the number of men who have accepted commissions in the Medical Reserve Corps, and that the medical profession was not responding to the call. Even within the last two weeks, statements have appeared in the newspapers, apparently from authoritative sources, to the effect that less than 3,000 physicians have accepted commissions in the Medical Reserve Corps.

What are the facts? On August 4 approximately 16,000 physicians had offered their services and had made application for commission in the Medical Reserve Corps. Of this number, nearly 14,000 had been recommended for commission. Some of the remaining 2,000 applications were pending; others had been rejected for cause. Of the 14,000 commissions recommended, nearly 9,000 had been accepted. This leaves about 5,000 applications which may be accounted for as follows: 1,300 were pending in the adjutant-general's office; an uncertain number had been sent out too recently to allow for the acceptance to be returned; some who had received commissions were delaying—for various causes—in sending in the acceptances. What proportion of this group will finally accept their commissions is problematical; but based on information which we believe to be reliable, we confidently assert that there are at the present time at least 13,000—probably 14,000 is nearer the correct number—physicians ready when called on for active service. These figures do not include physicians who have entered the regular medical corps during the last few months, or those connected with the national guard, the latter at least 1,000 in number. Moreover, from 100 to 150 new applications are reaching the Surgeon General's office daily. To advocate a special draft of physicians under these circumstances is an insinuation against the medical profession which should be insistently resented.

We repeat: The physicians of this country have been and are offering their services, at tremendous sacrifices in many instances, and are doing their full duty without compulsion and without a special draft. We are confident that not only the present, but every future need which the country may have for medical men, will be supplied by our profession, without coercion or threats.—Journal American Medical Association, August 11, 1917.

BLOOD-PRESSURE IN PROSTATECTOMY

Dr. A. H. Peacock of Seattle, Washington, in December, 1916 Annals of Surgery, presents some important observations on Blood-Pressure in Prostatectomy in relation to the sudden removing of urinary obstruction. Dr. Peacock observed that the sudden taking off of the pressure of urine reduced blood-pressure from 10 to 100 m.m. and brought about a change in the condition of the kidneys. The urine which had been free from albumen, now presents albumen and casts with anuria in from 25 to 50 per cent. of cases, involving a condition he designates as "hidden nephritis," and is responsible for the high mortality of prostatectomy "not shock or hemorrhage." Dr. Peacock advises that the operator watch for these conditions and institute early and active treatment, and offers the following conclusions:

1. There is a definite physiologic relation existing between the blood-pressure and the filtration in the kidney glands.
2. That a high blood-pressure is purely compensatory, and necessary to the individual in which it is found, to maintain a normal excretion of urine.
3. That any sudden and permanent lowering of the blood-pressure by radical or heroic measures is often a fatal procedure.
4. That a persistently high blood-pressure, even in the absence of albumen and casts, usually means a hidden nephritis.
5. That a chronic prostatic obstruction produces serious back pressure changes in the ureters, the kidney substance, the kidney circulation and the excretion of urine.

6. That a sudden relief of this intravesical pressure produces an immediate fall in blood-pressure, from 20 to 100 mm. hg.

7. That if the pre-operative blood-pressure is much over 150 mm. hg., the risk of a cystotomy or prostatectomy advances rapidly.

8. That compensation between the blood-pressure and the urinary excretion will take place if the pressure is not abnormal and will occasionally in a high pressure where there is unusual vitality or compensatory power.

PRESUMPTION OF NEGLIGENCE FROM BURNING OF PATIENT

(Meyer et. ux. vs. McNutt Hospital [Calif.], 159 Pac. R. 436)

The Supreme Court of California affirms a judgment for $750 damages in favor of the plaintiffs, husband and wife, for injuries caused, as alleged, by the carelessness of the defendant's employes in allowing Mrs. Meyer to be badly burned on the legs by a hot water bottle while she was unconscious from the effects of an anesthetic administered to her before a surgical operation was performed, although there was no direct evidence as to just when or how the injuries were caused. The court says that Mrs. Meyer testified that there were no burns or injuries of any sort on her legs when she entered the hospital, or up to the time when she lost consciousness. When she regained her senses she suffered pain and complained to her nurse, who found blisters on the patient's legs. The injuries were treated as burns usually are and yielded to treatment. The surgeon who performed the operation testified that she was not burned while in his presence, and the nurse who had charge of Mrs. Meyer before and after the operation said, in her direct testimony, that she put no hot water bag or anything of the sort in Mrs. Meyer's bed. But, while there was no direct testimony to the effect that any servant of the defendant hospital had applied hot water bags or any other instrumentality to produce the injuries on Mrs. Meyer, the court thinks the jury was justified in determining from all of the circumstances that the burns were inflicted while the patient was unconscious and under the exclusive care of the defendant's nurses. The nature of the injuries themselves tended strongly to support this conclusion. Areas of twenty-four inches on one leg and fifteen on the other were affected, and it seems hardly possible that one could be so burned while conscious without realizing it. Negligence like almost any other fact may be established by circumstantial evidence. It was clearly competent for the plaintiffs to prove, by the cross-examination of the surgeon, that, in spite of the lack of necessity for hot applications, they were as matter of fact, generally used; also, to cross-examine the nurse on the custom of the hospital with reference to warming beds. The doctrine of res ipsa loquitur (the matter speaks for itself) was properly applied to the facts of this case. The patient was unconscious. Under its contract with her the defendant corporation owed her a duty of protection which was violated by the use of an instrumentality which produced the painful results which were made manifest when she came out from under the influence of the anesthetic. Proof of the accident carried with it the presumption of negligence. And this is the rule whether the liability is ascribed to the carelessness of experienced nurses or to the defendant's negligence in selecting nurses who were not competent.—Journal of the American Medical Association.

HIGHER DEGREES IN MEDICINE

The University of Minnesota has just granted higher degrees in clinical medicine to three physicians, as follows: Dr. Golder Louis McWhorter, doctor of philosophy (surgery); Dr. Henry William F. Woltmann, doctor of science (neurology), and Dr. Hood Taylor, doctor of science (pediatrics). Degrees of master of science in surgery were granted to Drs. Egerton Lafayette Crispin and Francis Bartholomew McMahon. Also the degree of master of science in pathology was granted to Della Gay Drips and Dorothy Foster Pettibone.

ARMY PHYSICAL EXAMINATIONS

The medical examinations of the National Guard mustered in the regular army showed a high standard of men. In the first physical examination only one man was rejected and this rejection was provisional on the result of a Roentgen examination. Those who passed the physical test included the line officers, the men of the battalion of the Sixth Infantry, the line officers and troops of the cavalry, and the officers and troopers of the E. A. D. and G. The officers attribute the high standard of the men to the training they received on the Texas border last summer, and also to the fact that no one is accepted who does not meet the requirements of the physical examination prescribed by the army.

CALMETTE SUCCEEDS METCHNIKOFF

Albert Calmette, director of the Pasteur Institute at Lille, is fifty-four years old. He founded the Pasteur Institute in Indo-China and discovered there a ferment with which alcohol can be extracted from rice, but it was at Lille that he prefected the antivenom serum for snake bites. In the campaign against tuberculosis he was one of the pioneers, his preventorium being one among, if not the very first established. He has remained at Lille during the war, but has now been called to Metchnikoff's vacant place in the Pasteur Institute at Paris.

PERSONAL HISTORY OF APPLICANT FOR APPOINTMENT IN THE MEDICAL RESERVE CORPS, UNITED STATES ARMY

Give your name *in full* (including your full middle name):

The date of your birth: The place of your birth:

When and where were you naturalized (if of alien birth)?

Are you married or single? Have you any children, if so, how many?

What is your height, in inches? Your weight, in pounds?

Give the nature and dates of all serious sicknesses and injuries which you have suffered:

Do you labor under any mental or physical infirmity which could interfere with the efficient discharge by you of the duties of a medical officer?

If either parent, or brother, or sister has died, state cause and age in each case:

Do you use intoxicating liquors or narcotics; if so, to what extent?

Have you found your health or habits to interfere with your success in civil life?

What academy, high school, college, or university have you attended? State periods of attendance from year to year, and whether you were graduated, giving date or dates of graduation:

Name any other educational advantage you have had, such as private tuition, foreign travel, etc:

Give all literary or scientific degrees you have taken, if any, names of institutions granting them, and dates:

With what ancient or modern languages or branches of science are you acquainted?

When did you begin the study of medicine, and under whose direction? His residence?

How many courses of lectures have you attended? Names of colleges and dates:

When and where were you graduated in medicine?

Have you been before a State Examining Board? If so, state when, where, and with what result:

Have you had service in a hospital? If so, state where and in what capacity, giving inclusive dates of each kind of service:

What clinical experience have you had in dispensary or private practice?

Have you paid particular attention to any specialty in medicine; if so, what branch?

What opportunities for instruction or practice in operative surgery have you had?

Have you previously been an applicant for entry into the United States service? If so, state when, where, and with what result:

Are you a member of the organized militia? If so, state with what organization and in what capacity.

Have you been in the military or naval service of the United States? If so, give inclusive dates of service with each organization, designating it:

In case of war or threatened war, will you accept active service for duty with the Army, should your services be needed?

What occupation, if any, have you followed other than that of student or practitioner?

Present or temporary address:†

Permanent residence:†

I CERTIFY that to the best of my knowledge and belief the above statements are true.

Signature ☞

Date,....., *191*

Subscribed and sworn to before me, this.....day of.....A. D., 191.....

[SEAL] .....

[Signature and official title]

†The candidate should give his present address for correspondence, and also his permanent address to which he desires commission sent should he be appointed.

FORM 149.
W. D., S. G. O.
(Revised March 6, 1912)

Journal of the Iowa State Medical Society September 15, 1917

FURNISHES PERSONAL HISTORY

IN CONNECTION WITH

APPLICATION FOR APPOINTMENT

IN THE

MEDICAL RESERVE CORPS,
U. S. ARMY

.....*Inclosures*

.....*M. D.*,

OF

.....

.....

....., *191*.....

PUBLIC HEALTH

Conducted in the Interest of the Local Health Officers of Iowa, for the Conservation of Health and the Prolongation of Life

Local health officers are urged to present for discussion Iowa public health problems coming to their attention.

HYGIENE OF SCHOOL CHILDREN

The importance of this subject and the hitherto meagre character of quantitative data available in this field from our state, gives any contribution indicating its local importance a greatly enhanced value. Under the auspices of the Faculty of the College of Medicine of the State University, there has just been reported an extensive survey made of the hygiene of the four hundred odd school children and sanitation of the two school buildings of Wapello, Iowa, which serves to indicate to every community the importance of and necessity for devoting adequate attention to the health of the youngsters. The report will probably be printed as a university bulletin and thus be available for general distribution over the state. The space available here will merely permit the presentation of some of the most striking data collected.

Of 401 children examined by the dental examiner, but 24 had teeth free from cavities. The remainder had 971 cavities in the deciduous teeth and 1591 cavities in the permanent teeth, an average of over six per pupil. But 133 made daily use of the tooth brush, while 97 denied its use.

The eye, ear, nose and throat examiners detected 167 children with defective vision. Discharging sinuses were the most common nasal deficiency encountered, 65 being recognized. Two hundred and seventy-nine of the children had enlarged tonsils and 207 had adenoids. But five had defective hearing.

In the mental survey, 379 children were subjected to various mental tests. Of these 15 were classified as very superior, 65 as superior, 252 as average, 36 as inferior and 11 as very inferior mentally.

In the general physical examination of 398 children, 229 or 57.8 per cent. were normal physically. Subnormal nutrition was the most common condition of physical deficiency noted. It is of interest to note that Wapello is in a goiter district and that a large proportion of the children show evidence of simple goitre or hyperthyroidism.

A study was made to determine if any relationship exists between the degree of intelligence and various aspects of a pupil's physical condition. The most striking correlations were found to exist between the degree of intelligence and the condition of the nose and throat, while curiously the condition of vision and hearing appears to be without effect. The condition of the nose and throat steadily declines with each lower intelligence group. Noticeable, but less marked correlation was observed as regards the condition of the teeth, the state of the nervous system and nutrition and the degree of intelligence. For the most part, the defective conditions here noted are correctable, and if corrected there is every reason to believe that marked improvement would result in the intelligence rating of a child at present in the lower intelligence groups.

During the first semester of 1916-17, the absences represented a loss of 2370 pupil-days or 7.2 per cent. of the pupil days that semester. Sickness caused a loss of 1639 pupil days, of which 926 were lost from measles alone. Expressed in terms of operating cost per pupil, per pupil day, which is twenty-five cents, the measles epidemic caused the school district a loss of $231.62. The report contains full directions for the prevention and control of communicable diseases among the pupils, as well as discussing, from the data collected, the relative danger that may be apprehended from each.

The recommendations state that any system inaugurated for improving the hygiene of school children must achieve the following results:

1. Give each pupil a thorough physical and mental examination at the child's entrance to school.
2. Stimulate parents to voluntarily correct defects noted in their children.
3. Where parents of defective children are willing but financially unable to provide for the correction of injurious defects, to create or make available agencies for this purpose.
4. To supervise the daily health of the pupils to prevent the introduction into the schools of individuals having communicable diseases and to prevent the schools becoming a center for the dissemination of such diseases.
5. Physical and mental examination of a child should be repeated at least every four years during a child's progress through school.
6. Adapt the school work to the capabilities and needs of those pupils possessing defects.
7. Prevent anything about the school building or methods of instruction from exercising an injurious influence upon the health of the school children.
8. Give the children adequate and proper instruction in the fundamentals of both individual and community health.

After a discussion of the means by which these results can be accomplished, the report recommends the employment of a whole time woman physician for work in the schools. The advantages and disadvantages arising from the employment of school nurses are brought out and it is shown that when only one person can be employed for this purpose, a woman physician will give the most satisfactory results. School nurses working without competent medical direction have a very limited sphere of usefulness. It is considered that if a whole time woman physician is employed, the services of a school nurse in a community the size of Wapello, are unnecessary.

A special fresh air class is advocated for the pupils whose respiratory system is below par.

TUBERCULOSIS IN FRANCE

Hermann Biggs, in the American Journal of Public Health, gives what is perhaps the first authoritative data on this question that has appeared before American readers. The situation as he describes it is as follows:

The tuberculosis death rate has always been very high in France (3 per 1000), much higher than in adjoining countries, and furthermore very little official attention had been paid the disease. It was not notifiable, physicians were not familiar with the disease, no campaigns of public education had ever been undertaken, dispensaries were not available and the entire number of sanitarium beds available were woefully inadequate. In fact practically no agencies had been developed to combat the disease.

France mobilized her army very rapidly and under the conditions then prevailing, adequate physical examination of conscripts was not possible. This condition resulted in the inclusion of large numbers of cases of latent, incipient or arrested tuberculosis. Many of these developed active disease in the training camps and many more at the front. The conditions of warfare prevailing are unlike the open air tent life of previous campaigns, since the men are housed in overcrowded, illy ventilated, cold, wet dugouts or in overcrowded peasant houses or outbuildings while at the front. At the end of 1915, 85,000 French soldiers had been returned to their homes with active tuberculosis.

The occupied departments have a population of about 4,500,000, about half of which fled before the German invaders and for the most part are living as refugees near the front, a large number being housed in Paris. These people are absolutely destitute and are living in dark, overcrowded quarters with insufficient food. Those remaining behind the lines were in the same condition. Many of these were deported to Germany and have undergone the same physical depreciation. It is estimated that of the first 20,000 of these civilians, returned to France through Switzerland, 25 per cent. were tuberculous. Of the exchanged prisoners of war returned from Germany, sometimes 30 to 40 per cent. were suffering from tuberculosis. In all, France has to deal with nearly half a million active cases of tuberculosis activated as a result of war conditions and has now only from ten to fifteen thousand hospital beds available for them. Furthermore, the activation of these large numbers of latent cases exposes the civilian population among which they are living, to unusual hazards of infection.

POLIOMYELITIS

Serious epidemics usually bear some blessings in disguise, not the least of which are some contributions to our knowledge of the disease in question. The 1916 epidemic of poliomyelitis in New York City has been no exception to this, as the Department of Health of that city has just issued an elaborate monograph on the epidemic that is one of the most noteworthy contributions to the literature of the disease yet made, and is worthy of the widest perusal. All phases of the disease are covered. It may be obtained by purchase from the department.

In the epidemiological study it was found that something over 10 per cent. of the total number of cases studied intensively gave evidence of having received infection through the channels of contact. In the simultaneous epidemic at New Rochelle, personal contact was the determined route of infection in about 30 per cent. of the cases. Slight and abortive cases appear to be the most frequent source of infection. Multiple cases occurred in 4 per cent. of the families invaded. The onsets of the multiple cases indicated simultaneous infection. The incubation period appears to vary between three to ten days. No substantial evidence was collected to support the notion of food, lower animal or insect carriage of the infection.

A special study of insect transmission was made by Brues. Observations do not completely disprove the idea that the stable fly is implicated, though the behavior of the epidemic does not favor this view. The hypothesis advanced by Richardson of the rat as the host of the virus and the flea as the transmitting agent, appears to fit the epidemiological observations in general features and in many details as well. This should certainly be studied experimentally.

Exceptional opportunities were offered for clinical studies since more than one-half of those living twenty-four hours after the onset were treated in the hospitals of the Health Department. The greatest alleviation of pain was found to result from the use of anodynes and hot water baths. Dyspnœa yielded most readily to inhalations of oxygen with the ordinary cone under careful supervision. Results from the intraspinous injections of adrenalin did not justify its use. Simple lumbar puncture often relieved the pressure and was frequently followed by rapid and permanent improvement. Serum therapy, as used, was disappointing. Normal horse serum, serum from persons who never had poliomyelitis and serum from convalescents were tried, but none gave satisfactory results. The importance of the orthopedic work is emphasized. Extended reports are given of the results from the therapeutic measures employed.

NEW STATE BOARD OF HEALTH REGULATIONS

The revised regulations of the State Board of Health adopted by that body on September 28, 1916, and published in April, 1917, are the best codified regulations that have ever been promulgated by that body. Furthermore the style of publication facilitates ready reference and the value is enhanced by numerous code citations. All physicians and health

officers should secure a copy from the secretary of the board and familiarize themselves with the contents.

Some noteworthy changes have been made in the special regulations concerning quarantine. Regulations have been adopted concerning the management of diphtheria carriers, an aspect hitherto neglected. Permission is granted local boards to exempt persons successfully vaccinated, from small-pox quarantine. The quarantine in poliomyelitis extends for forty-two days from the onset.

The regulations concerning disinfection have been markedly modified in light of recent studies in this field. Emphasis is laid upon the proper collection and disposal of the infective discharges of a quarantined patient. The regulations concerning the disinfection upon the termination of quarantine have been modified so that the use of a gaseous disinfectant is no longer required excepting after the death or removal of a patient during the active stages of the disease. This is in line with the best practice elsewhere. Health officers and physicians should give this chapter a very careful reading.

A great deal of the dissatisfaction arising from quarantine practices, arises from the fact that responsible officials are lax in observing the legal method prescribed for their establishment and hence frequently find they are not in position to adequately handle a situation. This can all be avoided if officials require legal reports from physicians and establish quarantine according to the legally prescribed methods.

List of Iowa Physicians Who Have Been Recommended by the Surgeon-General for Commissions in the Medical Officers Reserve Corps

James W. Thornton, Capt., Ackley.
Harry Clay Irvin, 1st. Lieut., Adel.
Thomas Ernest Gutch, 1st. Lieut., Albia.
Isaac Hugh Odell, 1st. Lieut., Albia.
Albert Garfield Ryers, 1st. Lieut., Albia.
Walter Fraser, 1st. Lieut., Algona.
Corvus C. Lang, 1st. Lieut., Altoona.
Benjamin George Dyer, 1st. Lieut., Ames.
Joseph John Knepper, 1st. Lieut., Ames.
George Frederick Puffett, 1st. Lieut., Ames.
Daniel Francis Mathias, 1st. Lieut., Audubon.
Frank Leo Griffin, 1st. Lieut., Baldwin.
John H. Baldridge, 1st. Lieut., Batavia.
James McAllister, 1st. Lieut., Battle Creek.
Carl John Snaitkay, Capt., Belle Plaine.
George William Yavorsky, Capt., Belle Plaine.
Raymond Alvah Seiler, 1st. Lieut., Blairstown.
Ralph Jackson Selman, 1st. Lieut., Blakesburg.
Paul Francis Guernsey, 1st. Lieut., Bloomfield.
Charles Dalton Shelton, 1st. Lieut., Bloomfield.
Mary Clyde Jones, Capt., Boone.
Frank Harold Gaffey, 1st. Lieut., Bradgate.
Edward Webster Bookhart, 1st. Lieut., Breda.
Roy Alvin McGuire, 1st. Lieut., Brighton.
Edward Alexander Couper, 1st. Lieut., Britt.
George Washington Frank, 1st. Lieut., Buffalo.
Albert Charles Moerke, 1st. Lieut., Burlington.
Arthur Churchill Strong, 1st. Lieut., Burlington.
Edward John Wehman, 1st. Lieut., Burlington.
Jesse Lee Saar, 1st. Lieut., Cantril.
Milton Joseph Freeman, 1st. Lieut., Carroll.
Harry Carl Nichols, 1st. Lieut., Carson.
Roy Colony Alt, 1st. Lieut., Cedar Rapids.
William Ebenezer Brown, 1st. Lieut., Cedar Rapids.
Charles Herbert Cogswell, Jr., Capt., Cedar Rapids.
Harold Russell Conn., 1st. Lieut., Cedar Rapids.
Roy Kneale Keech, 1st. Lieut., Cedar Rapids.
Solon Mitchell Langworthy, 1st. Lieut., Cedar Rapids.
Frank George Murphy, 1st. Lieut., Cedar Rapids
Frederick Gray Murray, Capt., Cedar Rapids.
George Coleman Skinner, Capt., Cedar Rapids.
John E. Stansbury, 1st. Lieut., Cedar Rapids.
Rudolph Augustus Verpahl, 1st. Lieut., W. Cedar Rapids.
Arlo Richard Zuercher, 1st. Lieut., Cedar Rapids.
Clarence Hayes Doty, 1st. Lieut., Center Point.
Roy Clark Gutch, 1st. Lieut., Chariton.
Leo Cornelius Kuhn, 1st. Lieut., Chariton.
Prentiss Bowden Cleaves, 1st. Lieut., Cherokee.
Richard Gardner Eaton, Capt., Cherokee.
William Arthur Howard, 1st. Lieut., Cherokee.
LeRoy Anderson Wescott, Capt., Cherokee.
Leslie William Clark, 1st. Lieut., Chester.
Oscar Clare Lohr, 1st. Lieut., Churdan.
Ransom Drips Bernard, 1st. Lieut., Clarion.
Clifford Loomis Bartlett, 1st. Lieut., Clinton.
David Sturgess Fairchild, Jr., 1st. Lieut., Clinton.
Edward Leo Halliman, 1st. Lieut., Clinton.
Harry Rogers Reynolds, 1st. Lieut., Clinton.
Elmer Paul Weih, 1st. Lieut., Clinton.
Harry Lee Bridgman, 1st. Lieut., Columbia.
Frank Albert Hubbard, 1st. Lieut., Columbia Junct.
Channing Elmer Wolfe, 1st. Lieut., Coon Rapids.
Frederick Binder, 1st. Lieut., Corning.
Frank Earl Bellinger, Capt., Council Bluffs.
Albert Vincent Hennessey, Capt., Council Bluffs.
Maurice Charles Hennessey, 1st. Lieut., Council Bluffs.
Louis LeRoy Henninger, Capt., Council Bluffs.
Chalmers Alexander Hill, Capt., Council Bluffs.
Donald Macrae, Jr., Major, Council Bluffs.
Sydner Dale Maiden, 1st. Lieut., Council Bluffs.
John Stephen McAtee, 1st. Lieut., Council Bluffs.
Edwin Atkins Merritt, Capt., Council Bluffs.
Robert Shibley Moth, 1st. Lieut., Council Bluffs.
Ray Burney Tubbs, 1st. Lieut., Council Bluffs.
William Thomas Daly, Capt., Cresco.
George Alfred Plummer, Capt., Cresco.
Thomas Vincent Golden, 1st. Lieut., Creston.
Larned Van Patten Allen, 1st. Lieut., Davenport.
George Stephen Bawden, 1st. Lieut., Davenport.
Peter Alfred Bendixen, 1st. Lieut., Davenport.
Edward Sommet Bowman, Capt., Davenport.
Frederick Howe Lamb, 1st. Lieut., Davenport.

John Vincent Littig, Capt., Davenport.
Will Fred Speers, 1st. Lieut., Davenport.
Albert Everett Conrad, Capt., Decorah.
James Joseph Daly, Capt., Decorah.
John Daniel Hoxom, 1st. Lieut., Decorah.
Milton Dana Jewell, 1st. Lieut., Decorah.
Andrew Jackson Swezey, Capt., Decorah.
Cecil Claude Bowie, 1st. Lieut., Dedham.
Valentine John Meyer, 1st. Lieut., Defiance.
R. Fred Throckmorton, 1st. Lieut., Derby.
Arthur John Booker, 1st. Lieut., Des Moines.
John William Elder, 1st. Lieut., Des Moines.
George Sealey Gilpin, 1st. Lieut., Des Moines.
Milton Abe Given, 1st. Lieut., Des Moines.
Daniel Johnson Glomset, 1st. Lieut., Des Moines.
Francis Roderick Holbrook, 1st. Lieut., Des Moines.
Alden Robbins Hoover, Capt., Des Moines.
James E. Kessell, 1st. Lieut., Des Moines.
Emery Eilfred Lehman, 1st. Lieut., Des Moines.
Charles Nicholas Olsen Leir, 1st. Lieut., Des Moines.
Clifford Welcome Losh, Capt., Des Moines.
Robert James Lynch, Capt., Des Moines.
James William Osborn, Capt., Des Moines.
John Hyren Peck, Capt., Des Moines.
Alfred Stirgus Price, Capt., Des Moines.
Charles Edward Ruth, Major, Des Moines.
Charles Francis Smith, Capt., Des Moines.
Joseph Walter Tyrrell, 1st. Lieut., Des Moines.
Martin Theron Brewer, 1st. Lieut., De Soto.
Morton Lyon, 1st. Lieut., DeWitt.
William Sherwood Binford, 1st. Lieut., Dixon.
Orson Arza Kellogg, 1st. Lieut., Dows.
Lafayette Helmuth Frith, 1st. Lieut., Dubuque.
Eugene R. Lewis, Capt., Dubuque.
Joseph Larcher Ruyavitz, 1st. Lieut., Duncombe.
John Raymond Christensen, 1st. Lieut., Eagle Grove.
Luther Damon MacNaughton, 1st. Lieut., Eagle Grove.
Philip Vial Ketchum, 1st. Lieut., Elkhart.
James Frederic Clarke, Major, Fairfield.
Lora Douglas James, Capt., Fairfield.
Jesse Clifford Rose, 1st. Lieut., Farmersburg.
Harvey Lee Brown, 1st. Lieut., Ft. Des Boines.
Arthur Davis Browne (Colored), 1st. Lieut., Ft. Des Moines.
William Henry Bryant, 1st. Lieut., Ft. Des Moines.
Raymond Holmes Carter (Colored), 1st. Lieut., Ft. Des Moines.
Louis Alexander Cornish (Colored), 1st. Lieut., Ft. Des Moines.
William W. Felder, 1st. Lieut., Ft. Des Moines.
Charles Sumner Fisher, 1st. Lieut., Ft. Des Moines.
William Alfred Harris, 1st. Lieut., Ft. Des Moines.
Raymond Nathaniel Jackson (Colored), 1st. Lieut., Ft. Des Moines.
James E. Kessell, 1st. Lieut., Ft. Des Moines.
Edwin Henry Lee (Colored), 1st. Lieut., Ft. Des Moines.
John Francis Loosbrock, 1st. Lieut., Ft. Des Moines.
Geo. Ignatius Lythcott (Colored), 1st. Lieut., Ft. Des Moines.
Edgar Harvey Martin, 1st. Lieut., Ft. Des Moines.
James Lemuel Martin, 1st. Lieut., Ft. Des Moines.
Ulysses Grant Baldwin Martin, 1st. Lieut., Ft. Des Moines.
Thomas Ezekiel Miller, Jr., 1st. Lieut., Ft. Des Moines.
William Greenville Raby, 1st. Lieut., Ft. Des Moines.
Frederick Alexander Stokes (Colored), 1st. Lieut., Ft. Des Moines.
Hugo Benton Stokes, 1st. Lieut., Ft. Des Moines.
John Quill Taylor (Colored), 1st. Lieut., Ft. Des Moines.
Howard Randall Thompson (Colored), 1st. Lieut., Ft. Des Moines.
Thomas Clinton Tinsley, 1st. Lieut., Ft. Des Moines.
James Carroll Wallace, 1st. Lieut., Ft. Des Moines.
Arthur Henry Wilson (Colored), 1st. Lieut., Ft. Des Moines.
Roske Jerome Wilson, 1st. Lieut., Ft. Des Moines.
Arthur Henry McCreight, Capt., Fort Dodge.
Walter Harry Grimwood, 1st. Lieut., Ft. Madison.
James Glen Rea, 1st. Lieut., Ft. Madison.
Robert Stollt Reimers, 1st. Lieut., Ft. Madison.
Frederick Louis Wahrer, 1st. Lieut., Fort Madison.
John Riley Walker, Capt., Ft. Madison.
William Louis Hoffman, 1st. Lieut., Gilbert.
Charles Lee Jones, 1st. Lieut., Gilmore City.
Andrew Irvin Reed, 1st. Lieut., Grand Junction.
Oliver W. McGraw, 1st. Lieut., Grandview.
Edward Martin Thies, 1st. Lieut., Granville.
Ora Frank Parish, 1st. Lieut., Grinnell.
Royal Clark Danley, 1st. Lieut., Hamburg.
John Frank Standeven, 1st. Lieut., Hancock.
Jay Dee Dunshee, 1st. Lieut., Harlan.
Clinton Colfax Cady, 1st. Lieut., Harris.
William Wirth Weber, 1st. Lieut., Hartford.
Fred J. McAllister, Capt., Hawarden.
Thomas Nelson Walsh, 1st. Lieut., Hawkeye.
Rex Vale Henry, 1st. Lieut., Hedrick.
Edward S. Parker, 1st. Lieut., Ida Grove.
Nicolo Vincenzo Alessi, 1st. Lieut., Independence.
Percy Betterman Battey, 1st. Lieut., Independence.
Samuel Connell Lindsay, Capt., Independence.
Judd Campbell Shellito, 1st. Lieut., Independence.
Martin Luther Hooper, 1st. Lieut., Indianola.
Alexander Porter Stewart, 1st. Lieut., Inwood.
Thomas Elsie McCaughan, Capt., Ironton.
Henry S. Fruitnight, 1st. Lieut., Iowa City.
Thomas Roy Gitting, 1st. Lieut., Iowa City.
John B. Gregg, 1st. Lieut., Iowa City.
Edwin Elmer Hobby, Capt., Iowa City.
Elliott Sheldon Strong, 1st. Lieut., Iowa City.
Clarence Van Epps, Capt., Iowa City.
Jason Ned Smith, 1st. Lieut., Iowa City.
Thomas Noxon Teemey, 1st. Lieut., Iowa City.
Geo. John Wenzlick, 1st. Lieut., Iowa City.
William Claspell Morton, 1st. Lieut., Iowa Falls.
Clarence McCarty Wray, 1st. Lieut., Iowa Falls.
Charles Darwin Enfield, 1st. Lieut., Jefferson.
Benjamin Charles Hamilton, Jr., 1st. Lieut., Jefferson.
Frank Elmer Shimer, 1st. Lieut., Jesup.
William Frank Brown, 1st. Lieut., Keokuk.

Frank Manely Fuller, Capt., Keokuk.
Bruce Lock Gilfillan, 1st. Lieut., Keokuk.
Henry Arthur Gray, Capt., Keokuk.
Clarence Horace Kinnaman, 1st. Lieut., Keokuk.
George Raymond Narrley, 1st. Lieut., Keokuk.
William Rankin, 1st. Lieut., Keokuk.
Albert Edward Sabin, 1st. Lieut., Kirkman.
Corwin Schaffner Cornell, 1st. Lieut., Knoxville.
Alvah Hegus, Capt., Keswick.
Laurence J. Kaasa, 1st. Lieut., Lake Mills.
Oscar Hedberg Peterson, 1st. Lieut., Lamoni.
Erwin Julius Gottsch, 1st. Lieut., Le Mars.
Jay S. Caldwell, 1st. Lieut., Lenox.
Clairemont Hogue Mitchell, 1st. Lieut., Leon.
Elliott R. King, Capt., Letts.
Herbert William Plummer, Capt., Lime Springs.
John Joseph Bowes, 1st. Lieut., Livermore.
Paul Nicolai, 1st. Lieut., Livermore.
Hans Hansen, Capt., Logan.
Edward C. Ayres, Capt., Lorimor.
Raymond Eugene Robinson, 1st. Lieut., Lost Nation.
Albert John Charlton, 1st. Lieut., Lowden.
Meredith Byrne Murray, 1st. Lieut., Macedonia.
Thomas Wayne King, 1st. Lieut., Maloy.
Walter E. Draper, 1st. Lieut., Manilla.
William Henry Betts, 1st. Lieut., Madrid.
Thomas Blenhard Herrick, 1st. Lieut., Manson.
Hugh Mullarky, Capt., Manson.
Ira Nelson Crow, 1st. Lieut., Marengo.
James Franklin Battin, Marshalltown.
Aaron Clyde Conaway, 1st. Lieut., Marshalltown.
George Monroe Johnson, Capt., Marshalltown.
Robert Crichton Molison, 1st. Lieut., Marshalltown.
Joseph Carroll Barragy, 1st. Lieut., Mason City.
William Jacob Egloff, Capt., Mason City.
Charles Lemuel Marston, Capt., Mason City.
Stephen Ambrose O'Brien, 1st. Lieut., Mason City.
Burton French Weston, Capt., Mason City.
William Harper Thomas, 1st. Lieut., McGregor.
Armand Naffziger, 1st. Lieut., Merrill.
William Darwin McFaul, 1st. Lieut., Miles.
Louis Burton Amick, 1st. Lieut., Millersburg.
Sylvanus Weston Corbin, 1st. Lieut., Millerton.
Carl August Heise, 1st. Lieut., Missouri Valley.
Adam Hiestand Konigmacher, 1st. Lieut., Missouri Valley.
Walter George Finley, 1st. Lieut., Mondamin.
Oran West King, 1st. Lieut., Montezuma.
William Harris, 1st. Lieut., Moravia.
George Daniel Lynch, 1st. Lieut., Moravia.
Walter Franklin Schmaltz, 1st. Lieut., Mount Ayr.
Edmond Bland Ballard Fulliam, 1st. Lieut., Muscatine.
William Sheffield Norton, Capt., Muscatine.
John Wilford Stiers, 1st. Lieut., Muscatine.
Frank Raymond Mehler, 1st. Lieut., New London.
Garnett Smith Felt, 1st. Lieut., New Providence.
Samuel Willard Hartwell, 1st. Lieut., New Sharon.
Harry Jacob Jones, 1st. Lieut., North English.
Seward White, 1st. Lieut., Olin.
Kenneth L. Johnston, 1st. Lieut., Oskaloosa.
Earl Dermard McClean, 1st. Lieut., Oskaloosa.
Walter H. Anthony, 1st. Lieut., Ottumwa.
Murdoch Bannister, 1st. Lieut., Ottumwa.
Frederick Wilson Bowles, 1st. Lieut., Ottumwa.
Edward T. Edgerly, 1st. Lieut., Ottumwa.
LeRoy Aaron Hammer, 1st. Lieut., Ottumwa.
John Francis Herrick, Capt., Ottumwa.
Dr. Elmer John Lambert, 1st. Lieut., Ottumwa.
Donald McElderry, 1st. Lieut., Ottumwa.
Frank Wilbur Mills, 1st. Lieut., Ottumwa.
Gerald Vaughn Caughlan, 1st. Lieut., Pacific Junct.
Jacob John Sybenga, 1st. Lieut., Pella.
Samuel S. Gaillard, 1st. Lieut., Perdue Hill.
Christian Henry Dewey, 1st. Lieut., Perry.
Henry Irl McPherrin, 1st. Lieut., Perry.
Harry Blaine Wilkinson, 1st. Lieut., Perry.
Garner Forsemen Parker, 1st. Lieut., Pocahontas.
Clyde Randolph Van Voorhis, 1st. Lieut., Prairie City.
William Henry Clary, 1st. Lieut., Prescott.
William Garfield Johnson, 1st. Lieut., Princeton.
Dean Willard Harman, 1st. Lieut., Readlyn.
Henry Edward Kleinberg, 1st. Lieut., Redfield.
Abel Benson George, 1st. Lieut., Red Oak.
Herbert De W. Porterfield, 1st. Lieut., Red Oak.
Russell Montague Yound, Capt., Red Oak.
William Marvin Hubbard, 1st. Lieut., Rembrandt.
James Kuykendall Guthrie, 1st. Lieut., Ringsted.
George Maresh, 1st. Lieut., Riverside.
Louis Edward Eslick, 1st. Lieut., Rockwell City.
Jefferson Newton Hoit, 1st. Lieut., Rockwell City.
John Francis Meany, 1st. Lieut., Rockwell City.
Edmund Willoughby Wilson, 1st. Lieut., Rolfe.
Franklin Dewight Ayers, 1st. Lieut., Sabula.
Edwin Burchett, 1st. Lieut., Seymour.
Albert Giegle Armitage, 1st. Lieut., Shenandoah.
Charles Elmer Kellogg, 1st. Lieut., Shenandoah.
Audley Emmet Nelson, 1st. Lieut., Sidney.
Louis Dwight Cheney, 1st. Lieut., Sioux City.
Thomas Marsden Heard, Jr., Capt., Sioux City.
Charles Thomas Maxwell, 1st. Lieut., Sioux City.
Frank Garretson Rhodes, Capt., Sioux City.
Frederick Warner Sallander, 1st. Lieut., Sioux City.
Harry Johnson Schott, 1st. Lieut., Sioux City.
Joseph Patrick Sheehy, 1st. Lieut., Sioux City.
John William Shuman, Capt., Sioux City.
Herbert Pease, 1st. Lieut., Slater.
Roscoe Durr Taylor, 1st. Lieut., Spencer.
J. Willard Caldwell, 1st. Lieut., Steamboat Rock.
James Horation O'Donoghue, 1st. Lieut., Storm Lake.
William Henry Howard, 1st. Lieut., Strawberry Point.
Otis Philip Morganthaler, 1st. Lieut., Templeton.
John Archie Matson, 1st. Lieut., Tipperary.
William Henry Jenks, 1st. Lieut., Tipton.
Stephen Ballard Rybolt, 1st. Lieut., Troy Mills.
John Archibald McIntyre, 1st. Lieut., Walcott.
Lee E. Shafer, 1st. Lieut., Walcott.
Edwin Clarence Rogers, 1st. Lieut., Wapello.
Charles Edward Nauess, 1st. Lieut., Waterloo.
Guthrie McConnell, Capt., Waterloo.
John Elbert O'Keefe, 1st. Lieut., Waterloo.

Cecil G. Morehouse, 1st. Lieut., Waukon.
Robert Cochran Crumpton, 1st. Lieut., Webster City.
Franklin Joseph Drake, 1st. Lieut., Webster City.
Ward Hannah, 1st. Lieut., Webster City.
Everett Eugene Richardson, 1st. Lieut., Webster City.
Charles Burr Taylor, Capt., What Cheer.
Clarence Harman, 1st. Lieut., Whiting.
Francis Stephan Carey, 1st. Lieut., Williams.
Haramont Nathaniel Anderson, 1st. Lieut., Woodbine.

SOCIETY PROCEEDINGS

The Linn County Medical Society held a special meeting at Cedar Rapids, August 8. The report of the committee appointed to formulate plans to take care of the practice of physicians giving their services, during the war, to the government, was given at this meeting, and the following resolutions were unanimously adopted:

"Be it Resolved that we, the members of the Linn County Medical Society, appreciate the great personal and financial sacrifice made by some of our brother members in going into the Army at the call of the government, agree in so far as possible to take care of their practice during their absence and to turn over one-third of the proceeds of such practice to the family of the absent member.

"Be It Further Resolved that these resolutions be published in the daily papers for the information of the public and that persons who are the regular patrons of the absent physicians are requested to mention the fact, when calling another physician in case of sickness.

G. E. Crawford,
H. S. Raymer,
H. W. Bender,
Committee."

Dr. J. E. Stansbury and Dr. R. K. Keech, tendered their resignations as president and secretary on account of having accepted commissions in the Medical Reserve Corps; and Dr. G. E. Crawford was elected president and Dr. W. E. Owen, secretary. Sixteen members of the society have enlisted in the medical service of the army.

The mid-summer meeting of the Pottawattamie County Medical Society was held August 7 at Neola. Papers were read by J. M. Barstow of Council Bluffs; C. F. Baumeister of Avoca and H. B. Moorehead of Underwood.

A joint meeting of the Lee County Medical Society and the Physicians Club of Keokuk was held at Keokuk, August 15. The societies entertained as guests, Major M. G. Seeley and Captain W. E. Leighton, Medical Reserve Corps of St. Louis. Dr. Leighton, who went to France in 1915 with the base hospital unit organized by the late Dr. John B. Murphy, gave a very interesting address, illustrating the work at a base hospital in the war zone.

The meeting was largely attended and the urgent need of physicians and surgeons for the Medical Reserve Corps was strongly emphasized.

The Hardin County Medical Society held their mid-summer session at Union, August 27, under the presidency of Dr. E. C. Kauffman of Union. The guests of the society on this occasion were: Dr. John M. Dodson, dean of Rush Medical College, Chicago; Dr. Edmund Andrews, Chicago, and Dr. G. H. Sumner, Des Moines. The following scientific program was carried out:

Conservation of Children, Particularly in War Time—Dr. John M. Dodson.

New and Old Operations for Femoral Hernia—Dr. Edmund Andrews.

Disease and its Prevention—Dr. G. H. Sumner.

The Southwestern Iowa Medical Society held their regular session at Leon, August 9, under the presidency of Dr. Adam Weaver of Cumberland. The society entertained as its guests Dr. Howard A. Kelley of Baltimore and Drs. S. Wachman and S. P. Goodhart of New York, who gave illustrated addresses. Dr. Kelley's subject was Hysterectomy and Pyosalpinx, and Drs. Wachman and Goodhart presented a Collection of Nervous Diseases.

Other numbers on the program were: The Bearing of the X-Ray in Liability of the Doctor in the Treatment of Fractures and Dislocations, by Dr. F. E. Sampson of Creston; and Pyorrhea, by Dr. W. C. Boone of Ottumwa.

The Appanoose County Medical Society met at Centerville, August 28 with a large representation of the membership in attendance. Dr. U. L. Hurt of Seymour, read a paper on Acute Gastritis; Intussusception was the subject of a paper by Dr. W. A. Harris of Centerville, and Dr. Carl H. Carryer of Unionville, Mo., read a paper on Catarrhal Enteritis. Discussions were opened by Dr. E. T. Printz of Moulton; Dr. C. P. Bowen, Centerville and Dr. J. A. Replogle, Udell.

The Plymouth County Medical Society met in Remsen at 7:30 P. M. September 4. The following members were present: Drs. Fettes, Vernon, Mammen, Hombach, Brunner, Cole, Lamb, Heller, Joynt, and Jastram. Two visitors were also present. Drs. Esser and Pineo.

A complimentary stag dinner was given by the doctors of Remsen to the society at the Hoffman Hotel.

After the dinner the meeting was held in Dr. Heller's office. Dr. Fettes was chosen as chairman pro tem. Minutes of the last meeting were read and approved. Several clinical cases were then reported among which was a case without an appendix, another of dislocated crystalline lens and still another of the pernicious vomiting of pregnancy treated by hypodermic injections of pituitrin.

Dr. Mammen read a paper on Organo-therapeutics and Dr. Vernon one on Focal Infections.

Drs. Larsen and Shepard were appointed a committee to see an attorney with the view of curbing the activities of chiropractors.

Drs. Hombach, Heller and Larsen were selected to prepare papers for the next meeting which will be held in Le Mars on the evening of December 4.

A vote of thanks was extended to the doctors of Remsen for the dinner given, after which the meeting adjourned.

A. J. Jastram, Sec'y.

MEDICAL OFFICERS AND PHYSICIANS GUESTS AT THE RETREAT

Doctors Gershom H. Hill, J. C. and R. C. Doolittle entertained the medical officers of Fort Des Moines, the cantonment at Camp Dodge, and those encamped at the fair grounds, together with the members of the Polk County Medical Society and their wives at the beautiful and capacious grounds of The Retreat, August 7, at a dinner and musicale. About two hundred and fifty were present. Among them we observed Major Sprague and Captain Cook of the regular army, of the guards, Majors Fairchild, Conkling, Russell and Ruth. The navy was represented by Ensign Duhigg; the M. O. R. C., by Captains Price, Osborn, Lynch, Burcham and Smith, First Lieutenants Lier, Lehman, Elder, Holbrook, Peck, and others. After dinner an oratorical program was carried out under the direction of Dr. Minassian, president of the Polk County Medical Society and Major Ruth of the M. O. R. C. Speeches were made by Ruth, Smith, Peck, Conkling, Duhigg, Schooler, Lowery, Hill and others. Everything was so beautifully arranged and so systematically carried out that the occasion will long be remembered by everyone present. The weather was perfect and the grounds so elegantly adapted for such an event that art was not needed except to electrically light the large area necessary to accommodate the assembly. This was artfully accomplished by the distribution of the lights among the branches of the trees. A vote of appreciation was tendered Doctors Hill and Doolittle for the excellent repast and all that followed.

L. S.

On Saturday evening, September 1, Drs. G. H. Hill, J. C. Doolittle and Russell Doolittle were hosts to the newly commissioned medical officers of the Colored Citizens Training Camp. They received the officers at The Retreat, Twenty-eighth street and Woodland avenue. The beauties of this picturesque spot were admired by all who attended this delightful function.

A buffet luncheon was served in the main building. A musical program was rendered, the soloists of the evening including Mrs. Zoe Pearl Parks, accompanied by Miss Ada Harris, Lieutenant Stokes and Lieutenant Gilmore.

In addition to the reserve officers, three members of the Polk County Medical Society were present. They included Dr. Schooler, who is a veteran of two wars, Dr. W. E. Sanders, vice-president, and Dr. Thos. F. Duhigg, secretary of the local society. Each made a short talk. Responses were made by Lieutenants Ward, Walker and Leech for the officers.

The evening was concluded by the singing of "America" and "The Star Spangled Banner."

The proprietors of The Retreat have developed a well deserved reputation for hospitality and good fellowship. We trust that this reputation will increase with the further success of their institution.

T. F. D.

EFFECT OF CONTRACTS WITH PHYSICIANS TO FURNISH MEDICINES AND ATTEND THE POOR

(Johnson vs. Hamilton County [Ia.], 149 N. W. R. 639)

The Supreme Court of Iowa affirms a judgment in favor of the county, which was sued for $11.10 for medicines and medical supplies furnished an indigent person on the verbal order of the trustees. The court holds that the fact that physicians were employed to furnish medical attendance, medicines, etc., for the poor during the entire time of this account was, under the statutes and prior decisions, decisive of the question, and that the trustees could not ignore such employment. It has been held that the liability of the defendant must be fixed by the statute, or it does not exist, and that, when the board of supervisors have employed physicians to render medical aid and furnish medicines for the poor of the county, the trustees cannot disregard such employment by the employment of some other persons to furnish such medicines, and thereby render the county liable. It was conceded on the trial that these physicians did not give a bond, as required by the statute, and it was claimed by the plaintiff that there was no evidence that the contracts were let under competitive bidding to the lowest bidder. However, it has been recently held that, notwithstanding such fact, the contracts are not invalid, but are binding and in force. The bond required is to secure the faithful performance of the contract. The court thinks this bond is for the purpose of protecting the county in the event of failure of the contracting physician to perform the contract, and is not to protect the person furnishing medicines. It was said that one of the physicians was insolvent and unable to furnish the medicine. But the evidence did not show that any demand was ever made on him to furnish such medicines. The plaintiff furnished the medicines and supplies on the order of the trustees, when, at the same time, the county had a contract with physicians to furnish them. The trustees might not ignore the contract. Without now deciding the point, the court may say there might be a case of emergency, where the county physician is not accessible, when the trustees might employ a physician. To do so would open the door to abuses.—Journal of the American Medical Association.

ATTENTION PATHOLOGISTS

It has been suggested by Surgeon General Blue of the United States Public Health Service that all pathologists, bacteriologists and scientific workers who have in their possession cultures of virulent bacteria be cautioned against entrusting such cultures to others than those in whom absolute confidence can be placed.

RATES HIGHER AT THE UNIVERSITY HOSPITAL

The Governing Board of the University Hospital at Iowa City has found it necessary to increase the charges for patients $2.00 per week. The increased cost of food and hospital supplies has made this necessary.

DEATHS

Stewart W. Aldrich, M.D., aged sixty-six; Cleveland Homeopathic Hospital College, 1874; a practitioner since 1875 in Des Moines and vicinity; died suddenly at his home after a lingering illness, September 3.

John L. Overholt, M.D., aged fifty-five; State University of Iowa College of Medicine, 1887; member of Louisa County and Iowa State Medical Societies; a native of Iowa and for thirty years a practicing physician in Columbus Junction and vicinity; died suddenly at his office while prescribing for a patient, September 1.

Floyd B. Olney, M.D., age sixty-six; Hahnemann Medical College, 1881; member of the Webster County and Iowa State Medical Societies; was instantly killed when the automobile he was driving was struck by an Illinois Central passenger train at a grade crossing near Pomeroy, August 8. Doctor Olney was one of the older physicians of Fort Dodge where he had been in active practice for many years. In company with his daughter and grandson, the latter meeting instant death also, the party were on their way to Lake Okoboji for a vacation when the accident occurred.

Ira Irving Nicol, M.D., age fifty-six; College of Physicians and Surgeons, 1895; formerly a member of the Cerro Gordo County and Iowa State Medical Societies; surgeon for the Milwaukee system for many years at Mason City; died at his home in Mason City, August 4, from cerebral hemorrhage.

MEDICAL NEWS

Major David S. Fairchild, Jr., of Clinton, has been promoted to the rank of Lieutenant Colonel, and has been assigned chief sanitary officer of the Rainbow Division, Mineola, Long Island.

Capt. J. W. Osborn of Des Moines, former Secretary of the Iowa State Medical Society, is at the medical officers training camp at Fort Riley.

Dr. John H. Peck of Des Moines, has been commissioned captain in the Medical Reserve Corps and is stationed at Fort Des Moines where he has charge of the examinations for chest diseases.

Capt. C. L. Marston of Mason City and Lieut. Samuel J. Lewis of Columbus City, are at the medical officers training camp at Fort Oglethorpe.

Lieut. A. C. Conaway of Marshalltown, is at Fort Benjamin Harrison for a course of training.

Capt. Thos. A. Burcham of Des Moines, has been ordered to Camp Mills, L. I., where he is assistant sanitary inspector of the forty-second division.

Lieut. Larned Allen of Davenport, has been assigned to the staff of the chief surgeon.

Major C. E. Ruth of Des Moines, is connected with the sanitary department at Camp Dodge.

Dr. George B. Crow of Burlington, who enlisted in the medical service of the navy, has been assigned to the U. S. S. Saratoga of the Atlantic fleet.

Lieut. D. J. Glomset of Des Moines, who was ordered to the Rockefeller Institute, has returned and is stationed at Camp Dodge where he has charge of the bacteriologic laboratory work.

Some of the Iowa physicians at Fort Riley are: Capts. G. C. Skinner, Cedar Rapids; LeRoy A. Wescott, Cherokee; Edwin A. Merritt, Council Bluffs; Clarence Van Epps, Iowa City; A. E. Pace, Toledo; F. H. McCabe, Wellman; Lieuts. P. E. Guernsey, Bloomfield; Roy C. Alt, Cedar Rapids; Leo C. Kuhn, Chariton; Clifford L. Bartlett, Clinton; Harry L. Bridgman, Columbia; Frederick H. Lamb, Davenport; Alfred S. Price, Des Moines; W. S. Binford, Dixon; J. R. Christensen, Eagle Grove; W. E. Anthony, Ottumwa; G. F. Parker, Pocahontas; W. H. Clarey, Prescott; J. Willard Caldwell, Steamboat Rock; C. S. Cornell, Knoxville.

Unit R, American Red Cross, organized in southeastern Iowa, has something like $25,000 in equipment. Recently Mrs. Charles Hutchins of Burlington, presented the unit with $2,918 to be used for x-ray equipment, and Mrs. C. E. Perkins of the same city, made a gift of $750 for the equipment of a laboratory.

Saturday night, February 18, 1917, the residence of Dr. A. G. Field, temporarily vacant, was broken into and the following named articles taken:

One histological microscope, with one eye piece, made by Zentmayer.

In the case with the microscope was the following named objectives:

One 1/16; one ⅛, each with two fronts dry and immersion, and one ¼, all made by Powell & Leland, London; also one 1/12, one ⅛, one ⅙, one ⅔, all made by Bausch & Lomb, Rochester, N. Y.

There was also in the case one large orthoscopic eye piece, one triple nose piece, an amplifyer, an immersion condenser, one intra tube condenser, one

(Continued on Adv. Page xiv)

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At the Seaside: Among the Mountains:
In Vacation Camp

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Heavy (Californian)

The heaviest and most viscous Mineral Oil. *Specially refined for internal use.* Essentially different from and superior to all other Mineral Oils, whether of American or Russian origin.

Will prevent the bowel troubles consequent upon change of food, water and environment.

Does not deplete or stimulate the system—is not absorbed—does not disturb digestion—prevents constipation and intestinal toxæmia.

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E. R. SQUIBB & SONS, NEW YORK
Manufacturing Chemists to the Medical Profession since 1858

(Continued from Page 364)

polarizer, two stage micrometers, one-half circle micrometer, two growing slides, one focusing glass, one-half inch pocket lens, two eamers lucidas, and other accessories.

It is not believed that the thief had any knowledge of the use of these instruments.

There was also taken from other plaees, a faney chair, imitation of mahogany; seat and back eaeh one piece, no rounds between the legs; two hypodermic syringes, one in metal, the other in leather case; one skeleton opera glass; one small photographic camera for glass plates 3¼x4½ inches, with one plate holder, all in ease. Also, black eleetric cord about ten feet long with socket on one end and plug on the other, one stereopticon in black sheet iron case, strap handle on top. No lamp nor slide carrier.

Also, taken at same time a Stilson pipe wrench, two pipe pincers, a number of other small tools, a new Smith & Weston 38 revolver, a lot of 38 eartridges and other small articles, including large pruning knife.

A liberal reward will be paid for information that will lead to the reeovery of any or all of above named artieles by Dr. A. G. Field, 1331 Thirteenth street, Des Moines, Iowa.

AMERICAN WOMEN'S HOSPITALS

The War Service Committee of the Medical Women's National Association has organized the Ameriean Women's Hospitals for work at home and abroad. The Surgeon General of the Army and the General Director of the Department of Military Relief of the Ameriean Red Cross have approved the provision made for service to the Army and to the civil population. The work will be officially part of the medical and surgical serviee of the American Red Cross.

The seope of the plan is a broad one. It includes units for maternity service and village practiee in the devastated parts of the allies' countries, and hospitals run by women for service there as well as for the United States Army in Europe. In this country acute and eonvalescent cases will be treated in hospitals equipped for the purpose; soldiers' dependents will be cared for, interned alien enemies will be given medical aid and substitutes will be provided to look after the hospital service and the private practice of physieians who have gone to the front.

The first units hope to go to France and to Serbia in the early fall.

Headquarters have been established at 637 Madison avenue, New York City. Dr. Rosalie Slaughter Morton is chairman of the War Service Committee.

MARRIAGES

Dr. Verle A. Ruth of Des Moines, to Miss Margaret Callahan of New York City, at Minneapolis, August 4.

Dr. R. C. Gutch of Chariton, to Miss Ruth Chase of Indianola, at Des Moines, August 7.

Dr. Leon Dawson of Osceola, to Miss Gertrude Joynt of Emmetsburg, at Des Moines, August 14.

Dr. Nathan Campbell to Miss Hazel A. Gilleard, both of Yarmouth, July 17.

BIRTHS

To Dr. and Mrs. F. X. Cretzmeyer of Emmetsburg, August 9, a daughter.

To Dr. and Mrs. James A. Porter of Hedrick, July 25, a son.

Dr. and Mrs. F. L. Williams, Des Moines, August 26, a son.

Dr. and Mrs. W. A. Seidler of Jamaica, August 5, a son.

CHANGES OF LOCATION

Dr. C. C. Kepler of Jolly, has removed to Pocahontas.

Dr. A. E. Beyer of Guttenberg, has assoeiated with him, Dr. R. Z. Cope of Philadelphia.

Dr. Lee E. Shafer of Walcott, has sold his praetice to Dr. I. A. Marble of Oshkosh, Wisconsin.

Dr. J. A. McIntyre of Waleott, has disposed of his practice to Dr. David Lando of Sunbury, Ia. Both Drs. Shafer and McIntyre have received eommissions in the Medical Reserve Corps.

Dr. R. C. Sebern of Odebolt, has located at Cherokee.

Dr. C. G. Stookey of Mechanicsville, has sold his practice to Dr. George Herschel of Chicago.

HOSPITAL NOTES

The Congregational Hospital, nearing completion in Des Moines, will be known as the Bertha M. Parsons Hospital. A gift of several thousand dollars was made the hospital by James Parsons, of Farnhamville, as a memorial to his daughter who was drowned when a Lake Michigan steamer was wrecked near Milwaukee, July 1.

Atlantic has a new hospital up to date in every equipment, owned and operated by a group of medical men in Atlantie, under the name of the Atlantie Hospital Corporation. The officers are: Dr. C. V. Wilder, president; Dr. U. S. Mullins, secretary, and Dr. W. F. Graham, treasurer; board of directors, Drs. F. J. Becker; C. L. Campbell and W. S. Greenleaf. Atlantie may well be proud of this fine hospital, the benefits of which will be shared with the surrounding territory.

The Le Mars general hospital has been sold by the owners, Dr. G. H. Mammen and Dr. R. F. Bellaire, and will be operated by the sisters of St. Francis, Dubuque. The hospital has been undergoing extensive improvements whereby the capacity has been largely increased.

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A RETROSPECT AND A PROSPECT*

Oration in Medicine

Max E. Witte, M.D., Clarinda

"At the humming loom of Time I sit,
And weave the garment Deity wears."
—Goethe.

Have you ever sat deep in the night, before an open fire in the grate, all alone with yourself? The house is still, the telephone mute; the spirit of silence reigns over all. You sit at rest, and in reverie, and faintly, vaguely, from far away, as from another world, comes stealing into your consciousness impressions as of the essence of forgotten memories, of experiences of the past, the fragrance of a happy childhood, the activities of a strenuous youth, the heat, the burdens, the battles, victories, and defeats of a sturdy manhood; and the scenes shift, peopled with the fellow pilgrims who have with you passed along the way; the dear ones, many now asleep, come again with well remembered voice and mien, to bless us with their presence. And reason suddenly, like a bolt from the empyrean, asks "What is it? What does it mean? From whence, and to what end? What is back of this show?"

After pondering, due reflection, rolling the matter back and forth, and viewing it from many angles, and constructing many theories and hypotheses you, being honest, will come back to the one certain fact for a monument of departure, and say with Descartes: "I think, therefore I am," or if you have studied the development of the human mind from its humblest beginnings in the race, and in the individual, and believe with me that feeling antedates thought, you will say: "I feel, therefore I am." You are aware of one thing certain—your own being, whether you say *"Cogito ergo sum,"* or *"sentio ergo sum"* or even *"facio ergo sum,"* "I do, therefore I am." But hold, this latter is not so simple; it already involves a dynamic element—the will, the principle of energy, the overcoming of resistance by motion in space and through time, and this may possibly yield you an exit, a portal of escape, from Plato's cave, the world of sense, of phenomena, of mental constructs, and open paths to the fields of the real, unsensed by mortal eye, with the foothills and mountains of the absolute glimpsed, rising higher and higher in the amethystine haze of the distance.

But wherever your thoughts go, and your reason probes, you ever come back to the conviction: that, self-conscious though you be, you are but a single item in a vast universal process, a unit in a vast moving stream, a single note in the sublime symphony of the all; furthermore, that nothing is at rest, that everything is moving, and that while there may be eddies and countercurrents, and an ebbing and flowing, a billowing up and down, the main stream is ever one of becoming, and a majestic flow onward. And while you may feel like a piece of flotsam, floating helplessly, and bobbing up and down in the infinite tide, you are filled with the joy of movement, and exclaim with the traveler: "I know not where I'm going, but I'm on my way."

As a simple unit in this ever-flowing, shifting, changing stream, the individual human being occupies but a little space,—endures here but a little time, still it is evident to the most casual observer, that there are times, and again other times, that the stream ebbs and flows, and that certain periods stand out like spring-tides beyond others. The historian will delight to tell you of the golden age of Pericles, and the Augustan Age of Rome. We ourselves speak of the Elizabethan Period, of the dark Middle Ages, the Renaissance, the Reformation, and later on, the Revolution—all critical and vitally important epochs in the progress of our race. But we ourselves are "but of few days." Homer likens the generations of men to the coming and going of the leaves of the forest. Though our hair be frosted by the snows of many winters, yet have we scarcely seen two generations. But what a time! Through what a stupendous part in the de-

*Read before the Sixty-sixth Annual Session, Iowa State Medical Society, Des Moines, Iowa, May 9, 10, 11, 1917.

velopment of humankind, have we been privileged to live, and play a role, large or small though it be.

We who live in our time, are incapable of a true perspective, are too occupied by the trivial, the secondary, and only a retrospect from a remote future can yield an adequate view of the eternal achievement, the vast height attained by man in this our time, before which all that has gone before is dwarfed.

Should it be permitted us five hundred years hence, to cast our eyes back to this our present age, it will loom up in matchless grandeur over all others. It will be known less as the time of the Great World's War, but more as that of man's conquest of the Material Universe, when the hidden heart of things became envisaged, when the limitations set by space and time were reduced. But the chief glory of the age, the surpassing gem in its diadem, is that during it, disease was taken out of the realm of the mysterious, and placed upon a biological foundation.

Two-score years only, the last forty years just past, has it been my fortune to be a student and worker in the field of medicine. But what a time it has been! A recital of its achievements is epic in grandeur, and what is still more inspiring, is prophetic of the future.

A traveller, plodding onward to a distant goal, which still seems so far away, gains courage, comfort and consolation by stopping a moment to look back on the weary leagues he has overcome. So may we, when dispirited by the burdens and cares of the day, take heart from a retrospect, brief and cursory though it be.

A few memories pertaining to matters medical remain indelibly engraven, and remind me that while the knowledge and treatment of disease has changed and vastly so, the patient, the sufferer of pain, misery, and death, has not changed.

After I acquired some few years and a considerable sturdiness and after a busy season of fishing, boating, swimming and diving, in a nearby lake, beginning with the removal of the winter's ice by a spring freshet, and continuing all summer long until the freeze-up in late fall, an attack of so-called "bilious fever" set in, which in spite of all, including a doctor's care, was not followed by convalescence, but eventuated in "chills and ague," a very popular complaint which people had, and accepted as a matter of course, the same as a spree on circus day, or in connection with the Fourth of July celebration.

Malarial fevers and disorders were very prevalent in Iowa in those days, and were perhaps the commonest of all diseases. The plasmodium malariæ was still to be discovered and while we slapped ourselves into profane irritation fighting mosquitoes, we did not distinguish betwixt "anopheles" and "culex pipiens." The people froze, shook and sweated, and when the attack was over, went about their business. The doctor knew no more about the disease than we did. He talked vaguely about swamp air, and miasm. Deaths from fulminant, pernicious types of the disease were not uncommon. Chronic organic changes, especially enlargement of the spleen and liver, so-called "ague cake" with anemia and wretched ill health, was seen only too often. Today there is no malaria in our state, and has not been for many years past, unless it was imported.

During my early school days, each morning passed by our house a troop of merry, shouting youngsters, some eight or nine, the children of a neighboring family living one mile up the creek. I usually joined them on the way to school. One Monday morning they did not come—they were sick at home with sore throat—in fact, they never came again. Before the week's end they were all dead and buried. Only two older children, who did not go to school, and the baby, survived. Diphtheria, the fell destroyer, came as a thief in the night, and laid a pall of woe over a happy family.

One Sunday sat down to dinner, father, mother and four children, members of another family a few miles away. All were in good spirits and happy. The Sunday following, the father alone was living. And so I might enumerate one tragic occurrence after another.

Diphtheria, this Herod amongst diseases, was the terror to the doctor and the people alike. It was no respecter of persons and entered alike the door of the cottage and the portals of the palace.

A reigning prince, who had suffered also, for years had a standing offer of a munificent prize for a remedy against this killer of the innocents, but in vain.

But the years brought knowledge and relief. Nowadays you can scarcely conceive of such occurrences as I have outlined. Antitoxin has drawn the fangs and reduced the mortality of the disease which formerly in some epidemics exceeded 75 per cent. to less than 7 per cent., to say nothing of the untold numbers who, by protective immunization, avoid the disease altogether, and who in the past would have paid tribute in death and sorrow to the scourge. Were not the years worth while?

In those days, tuberculosis, or consumption as it was more commonly called, was indeed the great white death, and called home more than one-sixth of all earth's children, often the brightest and fairest of all and usually while life was

still young and the human blossoms had scarce unfolded and bright hopes realized in fruition. A diagnosis of consumption was equivalent to a sentence of death.

It is true that while the years have brought us an understanding of the nature of the disease, they have not as yet given us complete mastery over it. Nevertheless, they have brought remedies and renewed hope and courage to cope with it, and with a salvage of life to so many who, under former conditions, would surely have perished.

The line of mortality from tuberculosis, since the days of Koch in the early eighties, has held a steady downward trend, in all civilized countries, and for this we are grateful.

De Lesseps and the French engineers of his day, were probably as efficient and capable in technique and scientific attainment as any similar body of men before or since; and yet, in spite of the leader's genius and adequate resources in material and men, the cutting of the Panama Canal was a failure—a dismal failure. Our own doctors, Reed, Carroll, Lazear and Agravemonte, had to live and labor and even make the supreme sacrifice and thus win the martyr's fadeless crown.

With the finding of the Stegomya Fasciata as an intermediary host and carrier of the disease-producing germ, though the latter is still unknown, Yellow Jack has lost his empire forever, and no longer holds in the thrall of fear, the cities of the Atlantic Coast, or terrorizes our own Mississippi Valley. This, and the establishment of a natural history for the various malarial parasites, have rendered the Panama Canal possible, and an accomplished fact—have rendered habitable and subservient to men, the richest regions of the earth, and have put man in the way to come more fully into his own.

In my student days, as well as later, typhoid fever was quickly recognized by the practicing physician. In his text-books, the beginning, development, and course of the disease were graphically described. The treatment was based on experience and designed to meet symptomatic indications. But of the real nature of the disease, the parasitic invasion and occupation of the patient by the bacillus typhosus—the fabrication of a poisonous alkaloid as a product of the life cycle within the minute plant, its liberation into the organs, tissues and juices of the host, the commandeering and elaboration of protective principles and forces by the host, to counteract, check, and repel invaders.

The trench warfare, back and forth—the rallying of all available forces by the imperiled organization against the hosts of evil, darkness and dirt, the final victory by the defenders, or the going down in defeat and utter rout, meaning for the patient either convalescence and recovery on the one hand, or the passing into an early grave on the other—the doctor really knew no more than his lay brother. The latter looked upon the disease as an entity—as a thing coming, he knew not why or whence—and according to his early religious training, looked upon it as something much to be feared, but not to be avoided, since it was "Kismet"—fate—or the visitation of an overruling providence which somehow would teach a not well understood object lesson to the survivors. The text at the funeral service was expounded along this same line of thought and in the meantime the bedding and bed linen was hung of a morning on the side picket fence, and the young, the strong and the beautiful full of bright prospects, of energy, of hope, of ideals for the future, continued to pass behind the veil, and to return no more.

The doctor, conscientious, faithful and painstaking though he was, and burdened with care, did the very best he could—with the meagre, uncertain light he had. He talked in general terms of the "vis medicatrix naturæ" and honestly disclaimed credit for the curative powers of his potions and mixtures. He had learned by experience the dangers of unrestricted diet, and pinned his hope on proper feeding and reduction of temperature by cold baths—and careful nursing. In all this he did well, and the results in saving life were very much above those of his predecessor—nevertheless, of the real nature of the disease he knew nothing and epidemics continued to break out and carry off its victims. It has only been in very recent years that knowledge of the causation of the disease has appeared and afforded a basis for adequate preventive measures.

Even so late as our difference with Spain in 1898, hecatombs of our young men died, not from wounds received at the hands of the enemy, but from preventable zymotic diseases, chief amongst which was typhoid fever.

The doctor was not to blame, since he protested against adverse but remediable conditions, and even then knew that when the disease appeared some one ignorantly or carelessly had blundered, either in the disinfection of discharges from a typhoid patient or in neglecting taking into account surface or underground drainage in providing water for drinking and domestic use.

He also had begun to recognize as a fact the existence of the individual in the community, who, by virtue of either natural or acquired immunity, was able to serve as a living host during

possibly a long life, to these virulent germs, and this without knowing it and thus innocently could come and go amongst his fellows, a living, perambulating menace, a seething seminary from which at any moment, under favoring conditions, an epidemic might rise, with death and endless sorrow in its wake.

Not many years after, again a gathering of young men in arms was called and encamped along the banks of the Rio Grande, under conditions which outwardly simulated those in vogue previously at the camps in Cuba, Tampa Bay and even Tennessee. I say outwardly advisedly for really in the meantime the world had moved, the doctor in knowledge and practical application and in the esteem of the powers that be.

He had learned that by the introduction of the toxin of the typhoid germ, or rather the germ itself, rendered incapable of reproduction, but containing the toxin into the body of man, a process of preparedness was inaugurated in the same, by the elaboration of various defensive principles, and the individual thus made immune against the invasion from the active, living, dangerous bacillus. The *vis medicatrix naturae* of the old doctor invoked in advance, and controlled and regulated by certain knowledge based thereon, became the sword and buckler in defense of human life. With this protective vaccination, rational precautions and improved sanitation, the numerous hosts met on the banks of that border river in health and well-being, and not one in the multitude was lost. Only two mild cases of the disease developed, in whom evidently it was in the incubation stage when the call for concentration came.

And thus the years brought us intimate knowledge of the natural history of not only typhoid fever, tuberculosis and diphtheria, but also of all, or practically all, other scourges to mankind due to the malign influences of microscopically small plants, and equally minute animal parasites. A prepotent power has been given us in the practical application of this knowledge.

In my earlier days, medicine as a science was descriptive only, and not explanatory, as it is and aims to be today. As an art, it was purely empirical. We did things, since experience in similar cases had approved.

As students, we read and listened to lectures at great length on the phenomena of the various diseases, which were detailed and demonstrated, but of the true inwardness of the disorder, we caught not a glimpse. It is true that it was mentioned that micrococci and bacteria had been observed by certain investigators, and it was thought they possibly might have some connection with the malady.

In the treatment of wounds, the surgeon spoke of "laudable" pus as something praiseworthy and very much to be desired and contrasted the yellowish, thick, creamy article with the thin, icorous and stringy stuff of unpromising and undesirable character. I need not tell you that to the surgeon of today, pus as such is taboo and spells to him error and defect, due perhaps to conditions outside of his control, but much to be regretted just the same.

Then came the great heroic figures, the explorers, the iconoclasts, the pathbreakers in our science—and the germ theory of disease arose, grew, blossomed and fruited in incomparable grandeur and beneficence, the one achievement of the age, great above all others. "Germ theory" is a misnomer, for it is no longer a theory that the most malignant and deadly diseases are due to living micro-organisms, specific for each type, but a certain well-established fact, as certain and well-established as anything in our present existence can ever be.

Based on this knowledge, grew and expanded modern surgery in matchless magnificence, the marvel and pride of our time. I need not go into particulars, for they are known by all men. Today, for the relief of suffering man, the surgeon carries his knife everywhere and into regions of the body absolutely outside surgical interference—only a brief generation ago I heard a master of the art (and he was a master, for there were giants even then) deplore the loss of a patient a few days after a hysterectomy for malignant disease. Had the patient lived, she would have been one of the first in whom this way of relief had been attempted and the first to succeed.

But great, brilliant and dramatic as has been the development and progress of the surgical side of the science and art of medicine, so that it has occupied the center of the stage, with the public and profession alike, it must not be forgotten that the advance and achievement in knowledge and in its practical application by the physician, is equally vast, equally stupendous and in the greatness of beneficence even more so.

The public at large is illy advised of this, since the physician's work is less spectacular, less adapted to heroics.

With a knowledge of the life history of nearly all specific microorganisms, and its practical application in serology and immunology, the modern physician has not only gained the mastery in the use of nature's weapons to battle

against zymotic disease with war frankly declared, but—and here is the important point—he is enabled by the possession of these potent weapons and an improved sanitary service and technique, to fend off disease and thus avoid actual hostilities.

In this particular and most important class of diseases, the doctor even today is attaining the culmination of ideals pervading the spirit of our profession, a spirit of pure altruism, namely prevention.

Untold numbers of human beings today are safeguarded and avoid disease altogether, who in former years would have been afflicted and paid toll to the powers of evil that dwell in darkness and dirt.

And this is vastly greater in the good done—further reaching in spiritual and material achievement than the greater results in the treatment of actual disease.

Some day, when blue and discouraged about some trends in our time, sit down, and with pencil and ruler plot graphically the mortality statistics for say the last thirty or forty years of five or six great cities of the world. Plot time in years as abscissa, and the mortality rate per ten thousand of the inhabitants as the ordinate. You will get the surprise of your life. You will be gratified at the steady, downward slope of the mortality line, with the passing of the years, and this, in spite of the adverse condition engendered by the crowding of the people in centers of population, fiercer competition, and a more arduous struggle for a living. What, for instance, has been done for the baby—to reduce infant mortality, alone, is an immortal achievement, little talked or known of by the public at large, and only to be fully appreciated in the future when the things worth while in our times are told.

While our advance in knowledge and treatment in disease, due to micro-organism, has been so vast, our knowledge and treatment of the diseases not so caused, the maladjustments, the inadequacies, the disproportions, the disarrangements and degenerations have made gratifying advance, and the future is fraught with promise.

In my student days we became acquainted with the anatomy of the so-called ductless glands—the thyroid, thymus, pituitary, and suprarenal bodies, the spleen—but their function was frankly unknown. Our physiology hinted at some obscure office in the economy of the human body, but that was all. How great is the role of the internal secretions, those now known and perhaps of many still unknown—the years have revealed only in part. We barely see, as through narrow portals, a boundless vista within the field of biochemistry.

To properly enter upon the work of exploration, to gain an understanding of the principles regulating growth, maintenance, wear, and repair—development and retrogression—to seek out and follow the complex and elusive processes of life into its hidden recesses—it was necessary that the years should bring in a new era in physical, chemical and biological science.

How magnificently the years have done this service! Time and opportunity forbid more than the mere mention of this fulfillment. And what a promise for the future is unfolded! To particularize: What views of exploration, of possibilities for understanding and treatment, does not the new chemistry of colloids hold out to the doctor of the future? What potentiality of knowledge, of wisdom, of beneficence, lies wrapped up to the physician, the social reformer, the statesman, the philanthropist, in the only partially and imperfectly-known laws and principles of heredity! I for one would like to come back, after long eons have passed, to see "where we are at."

What of the future? After looking back and viewing with pleasure and admiration the altitude we have attained, we turn our face the other way and behold still greater heights to be achieved.

In these days, when we begin to speak as glibly of hormones, and vitamines, of constructive and regulative ferments, as once we did of germ and toxin, the future looms up grandly and holds within its enveloping mists, vaster problems to be solved, greater difficulties to be overcome—as such, an exceeding great task is set for the scientific worker in the investigation of protoplasm, of life itself. The coming into existence of a new being is fully as wonderful as the genesis of a stellar system. The mysterious influences in the gametes, which bear ancestral traits to the off-spring, are as astounding, as unknown as the force which causes the tides, which holds the circling orbs in their course.

In our own particular field, many morbid processes, bringing pain and death, still elude intimate ken, carcinoma for instance. In my own specialty it is needful to place more fully psychiatry on an anatomical and physiological basis, to explore the realms below the threshhold of consciousness and to explain and correlate consciousness itself, with the functioning of associated systems of cortical neurones. It will involve the physical and colloidal chemistry of intracellular molecules and mechanism. The eye picks up etherial vibrations of a comparatively limited range; in the brain, the transmitted impulse is

built into a construct of transcendent beauty—the vision of an autumn sunset—the mirroring of spruce-clad peaks in the dark surface of a mountain tarn. Does similarly our higher brain organization enable us to glimpse fragments of the infinite power back of the stream of becoming in the world process?

And thus the weaver sits, and weaves the garment of the Most High. The shuttle flies to and fro. Through the web, lending beauty and brightness to its pattern, flows a thread of purest gold—the spirit, the genius, of our profession. In these days of material trends, of the unshackling of primitive feelings, of elemental passions, of brutal hate, it alone remains unchanged. Now, as then, it knows no foe, save disease and death; its compassion, its service, is coextensive with human woe.

Reverently, I am grateful that it has been granted me to share in its work.

PLEURISY—SYMPTOMATOLOGY*

J. W. OSBORN, M.D., Des Moines

HISTORICAL NOTE

Notwithstanding the fact that Hippocrates accorded to pleurisy an independent position among diseases, especially the suppurative type, nevertheless the history of pleurisy as an independent nosological entity dates from the time of Laennec's investigations, and his picture is still today one of the clearest that has ever been given. Passing by many investigators, we may note that Skoda and Traube particularly added to the symptomatology of pleurisy; others contributed to the study of the physical signs, the mechanical problems, the changes in blood-pressure and the bacteriology. The wonderful advance in surgery during the past forty years has led to the publication of many articles on the operative treatment of pleurisy. The most important advance in the diagnosis of pleurisy we owe to Dr. Bowditch, who popularized exploratory puncture.

Frequency—From the point of view of the pathologist, pleurisy is of frequent occurrence. The striking disparity between autopsy and clinical findings shows that many cases pass unheeded or undiagnosed. Few, if any, diseases are as frequently misdiagnosed as pleurisy, especially the suppurative form, particularly when it occurs as a complication or sequela of pneumonia.

Symptomatology—The symptoms of pleurisy are protean, due mainly to the differences in extent, position, and intensity of the inflammation, in the circumstances under which it developed, in the diseases with which it is associated, and in the stage at which it has arrived.

Dry Pleurisy—The onset of this variety is remarkably variable. There may be only a little feverishness, loss of appetite, general malaise, with a stitch in one side when he breathes deeply or coughs or twists his body or moves the corresponding arm; and he may follow his ordinary avocation for a week or two when he is restored to health, or at the end of this time increasing illness and difficulty in breathing may cause him to consult a physician. In the majority of cases the onset is sudden and more severe; there is pain which varies greatly in intensity, and fever, usually 99 to 101 degrees, but it may reach 103 degrees or more. High temperature is apt to indicate some complication.

Pain—Pain is one of the most common symptoms but it may be absent in the extremes of age or after the subsidence of the acute symptoms. It is described as sharp, stabbing or cutting, but it may be only dull or dragging in character. It is usually localized but may be diffuse. When localized, it is felt in the mammary region, less frequently in anterior or posterior lateral and lower parts of the affected side. It may radiate to the shoulder or arm, the lumbar region, the neck, or abdomen. Cases in which the pain is first referred to the abdomen, are troublesome to diagnose; this pain, which is usually in the upper abdomen, in the absence of pleuritic friction, may simulate acute abdominal conditions, especially as there is at times abdominal tenderness and muscular spasm. Not a few abdominal operations have been performed in cases in which in a few days pleuritic friction or effusion showed the true origin of the symptoms. Diaphragmatic pleurisy is more likely to give the abdominal symptoms. The pain of dry pleurisy is usually of moderate intensity, sometimes almost unbearable, at times slight, only being elicited by cough or a long breath. It is usually of short duration, disappearing in a few days, but it may last for weeks or months. It may be constant or intermittent. It is often increased or elicited by movement of any kind, by pressure or percussion. It usually disappears or is diminished with the advent of effusion. It is probably caused by irritation of the terminal nerve filaments in the inflammed tissue.

Cough—Cough is present in a large proportion of the cases and is ascribed to pleural irritation;

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this is confirmed by the increase of cough on deep inspiration and its relief when the side is immobilized. The cough is rarely severe but may be paroxysmal and troublesome and it is always painful. It may be accompanied by some expectoration, which lacks characteristic features. It may be of frothy mucus, muco-purulent, purulent or bloody. Personally I have always regarded bloody sputum in pleurisy to be due to an undetected pneumonia.

Respiration—If the case is at all severe, there is from the beginning hurried, shallow and perhaps irregular respiration, which may be accompanied with an expiratory groan. The pain may be so severe as to cause dyspnea, but not often in the dry variety.

Physical Signs—Posture—The posture is variable. Sometimes the patient lies on the affected side, not so frequently as with the wet variety; sometimes on the well side; but more frequently, I believe, he lies on his back with the spine deflected toward the affected side and the shoulder of that side depressed.

Inspection shows a diminished expansion and elevation of the chest in addition to the posture. If the patient can sit up, the amplitude of the diaphragm phenomenon will usually be shown to be diminished on both sides, and much diminished or absent on the affected side. The intercostal spaces may be narrower.

Palpation confirms inspection and may show absence of tactile fremitus; this is not of much value in children and women.

Percussion—There may be some dullness, but many dry pleurisies do not show much by percussion.

Auscultation—The respiratory murmur is vesicular but diminished, and vocal fremitus is usually unchanged, though it may be diminished. The most characteristic auscultatory finding is the friction rub, which may be heard as early as twelve hours after the onset.

Hippocrates detected its squeaky leather character. The rub is more distinct during inspiration than expiration; it is often jerky and inconstant, present during one respiration and absent during the next; it may disappear during the examination. Dry pleurisy may exist without its presence and friction does not exclude effusion in a neighboring part of the pleura and the sound is said to be not pathognomonic.

Sometimes in examining the posterior thoracic region, if the patient has his arms folded and his hands touching the opposite shoulders, there may be heard a rumbling, grating inconstant sound, at first confined to inspiration, becoming more and more intense and finally occupying both phases of respiration. This sound may disappear and reappear during the examination; it may be felt with the hand, and the patient may feel the grating but it causes no pain; it may be heard along the clavicle and down the arm. This sound is called a pseudo-friction and is due to crepitus in the shoulder joint.

Singultus—Hiccough is a not an infrequent symptom of the severer forms of pleurisy and is sometimes present in the lighter forms. Its presence in the debilitated may be of grave import. It is probably due in most cases to direct irritation of the trunk of the pneumogastric or phrenic and accordingly constitutes one of the most important symptoms of diaghragmatic pleurisy.

SERO-FIBRINOUS PLEURISY

Lord divides wet pleurisies into three groups—(1) tuberculous, (2) infectious (non-tuberculous), (3) other causes.

Primary sero-fibrinous pleurisy differs very little from the dry until the establishment of effusion. The onset may be a trifle more severe, the fever, cough and pain more marked, but many cases have a gradual onset. In the secondary forms the onset is often insidious and the condition is only discovered on physical examination. When it follows pneumonia, we may be suspicious of purulent pleurisy; when after the crisis, with perhaps a day or two of normal temperature, fever gradually returns, usually not high at first, and general improvement ceases.

SPECIAL SYMPTOMS

Respiration which before the effusion was short and quick, now for a time at least quiets down and the pulse respiration ratio is not disturbed as in pneumonia.

With the increase of the effusion, dyspnea gradually develops and may pass on to orthopnea.

Physical Signs—With the increase of the fluid the respiratory excursions become less and less and with large accumulations may cease. The intercostal spaces in spare individuals may widen and appear fuller than normal and there may be an appreciable increase in the size of the affected side. The diaphragm shadow is absent on the affected side and may remain so after recovery. Pulsation of the chest may be observed, but is more common with pus.

Palpation shows a difference in the expansion of the two sides and tactile fremitus is absent over the fluid; above it may be diminished, normal, or increased, depending on the condition of the lung and pleura.

Percussion shows a gradually ascending line of dullness which varies with the posture of the patient. With the patient erect it is like an elongated letter S, lower behind, ascending to the axillary region, then gradually sloping downward. The curve is absent in circumscribed effusions, and is best elicited by light percussion. Change of level is an important symptom. We should remember that it may take a few minutes for this change to occur when changing from recumbency to the erect position or vice-versa.

In addition to changes in the percussion note, there may be apparent to the finger an increased sense of resistance. With the advent of effusion the friction rub disappears, to reappear on the absorption of the fluid. The breath sounds gradually diminish, to disappear entirely over large effusions. As the fluid increases the breathing over the base of the lung may become tubular. This is most marked in the interscapular space. With large effusions the breathing is vesicular in the upper part of the chest and is distant or absent below the level of the fluid.

The voice sounds are often increased above or absent below the level of the fluid. Ægophony may be heard, most often in the posterior or lower thoracic region. The whispered sound is variable; it is diminished or absent over the fluid, generally increased over the region where bronchophony is heard.

Purulent pleurisy differs very little from the wet variety, the aspirating needle settling the difficulty quickly and efficiently.

Diaphragmatic pleurisy should have just a word, because it so often has referred pain. The pain may resemble that of dry pleurisy, but it is more likely to be referred to the lower thoracic, the upper abdominal or the appendiceal regions. There may be tenderness over the phrenic nerve in the neck, or at the intersection of a vertical line parallel with the outer margin of the sternum, with a horizontal line continuous with the end of the tenth rib. The breathing may be partially or wholly thoracic in type, and the diaphragm phenomena may be absent on one or both sides. Dyspnea may be marked; singultus may occur, and swallowing cause pain.

THE ETIOLOGY AND PATHOLOGY OF PLEURISY*

GUTHRIE MCCONNELL, M.D., Waterloo

The more thorough our examination of cases in which there are inflammatory conditions of serous membranes, the more frequently we find definite etiological factors. We no longer speak of idiopathic occurrences as that is a confession of not having located the primary focus, which may be in a small abscess at the root of a tooth, in a diseased tonsil or in some abnormal condition in close proximity to the serous structure. Today our energies are directed toward the determination of the site of infection, the isolation of the particular organism that is at fault, and the path by which it obtained entrance to the part involved.

Although there may be a localized pleural exudation or coagulation at the seat of a sterile, hemorrhagic infarction in the lung, the vast majority of cases are due to bacterial activity. The list of offenders is not large, nor can we always draw a line between the pathological phenomena accompanying the different infections. The most frequent microorganisms are the pyogenic micrococci, streptococcus and staphylococcus, the pneumococcus and the tubercle bacillus. Other bacteria may be found occasionally but they are as a rule secondary invaders; they do not appear until the primary damage has occurred.

As a rule the pleuritis is secondary to some pulmonary involvement, consequently the method of extension can readily be appreciated when we consider the anatomy of the structures involved. When the inflammation within the lung extends to the peripheral air vesicles, the pleura must suffer, as it is nothing more than an extremely thin sheet of connective tissue covered by a single layer of endothelial cells. It is a very easy matter for phagocytes, and free bacteria as well, to pass through the congested and dilated lymph channels to the surface of the visceral pleura. After that point it becomes an easy matter for a more or less widespread extension of the inflammation to take place. This same spreading by continuity of tissues occurs irrespective of the variety of organism. There are, however, cases, usually tuberculous in character, which may result by extension from disease of the bronchial lymph nodes.

The pathological changes taking place in the pleura are not difficult to understand if there is a clear conception of the phenomena of inflammation. It makes no difference whether the pericardium, the peritoneum or the pleura be involved, the underlying principles are the same in all. The after results, however, may vary on account of the differences in the chemical activities of the separate organisms. Some have marked positively chemotactic properties and give rise to the formation of large amounts of pus, while

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others do not figure largely as pyogenic in character.

The primary changes in the pleura are those common to all inflammation, redness, swelling, pain, heat and an altered function, the so-called cardinal symptoms. The surface of the pleura will no longer appear smooth and glistening, but will be granular, dull and cloudy instead of transparent, and dry instead of moist. It is this anatomical change that accounts for the friction rub early in the disease, and later on when the exudate is being absorbed.

As a result of the changes in the blood-vessels there occurs an escape of serum and blood cells, particularly the polymorphonuclear leucocytes. This exudate differs in certain very definite ways from the non-inflammatory transudate in that it contains a greater amount of albumin and consequently is more likely to undergo spontaneous coagulation. An important diagnostic point is the frequency with which the specific gravity of the inflammatory fluid is 1018 or over. The degree depends directly upon the amount of albumin that is present in the form of serum albumin, serum globulin and fibrinogen. As this exudate contains bacteria, there is a more or less outpouring of leucocytes, which escaping from their normal environment tend to degenerate. In so doing they probably liberate a fibrin ferment that in the presence of calcium salts acts upon the fibrinogen present in the exudate. This fibrin formation may be considered as an attempt by nature to restrict the spread of the infectious material. In abdominal infection this property is well recognized, the walling of an area of suppuration by fibrin is often a most valuable aid in the recovery of the patient. In the chest cavity such a limitation of the infection may also be of great importance.

If the inflammatory process subsides rapidly, the resulting injury to the tissues may be very slight. The small amount of fluid will be taken up by the lymphatics, a greater part of the fibrin degenerate and be absorbed and that which remains eventually be replaced by connective tissue with the possible formation of adhesions. The degree of adhesions will depend largely upon the extent as well as the location of the original lesion. If, at the apex where the expansion is slight and the range of motion limited, the adhesions may obliterate completely that portion of the pleural cavity. The nearer the base of the lung is approached, the longer and less massive are the adhesions as a rule.

This form which is characterized by a minimum amount of fluid with a comparatively large formation of exudate is commonly classified as the fibrinous or plastic type. Instead, however, of there being but little fluid, there may be a marked outpouring of a clear yellowish fluid containing but few cells and little fibrin. In one case 4600 c.c. were removed at one tapping. This fluid after removal usually undergoes spontaneous coagulation with the formation of a cloudy jelly-like clot, which may involve the greater part of the exudate or only a small portion. Although, as a rule, clear or slightly opalescent, this exudate may vary in color from a slight brownish to an intense red, according to amount of blood that is present. If there is an accompanying jaundice, the fluid may be more or less yellow in color. In the dependent portion within the chest there will be found a layer of sediment consisting largely of lymphocytes, endothelium and particles of fibrin.

This type, known as the sero-fibrinous, is particularly important in that the tubercle bacillus is the most common of the various organisms. In a series of such cases the subsequent history showed that from 35 to 40 per cent. develop manifest pulmonary or other tuberculous lesions within six years. If the tuberculin test is reliable, it has shown in one series positive reactions in 76.5 per cent. Of course the positive proof of the tuberculous nature is the finding of the tubercle bacilli. Obtaining by means of culture is practically always unsuccessful as is the simple microscopic examination. By using special methods some observers have found bacilli in 55 per cent. of primary cases and in 83 per cent. of secondary effusions. Animal inoculations in which large quantities of fluid were used, have given positive results in more than 62 per cent. It is therefore very evident that the majority of these effusions are due to tuberculous infection.

The pneumococcus is probably next in frequency as the causative factor, but the pyogenic organisms may give rise to this type. It is difficult in such infections to exclude the tubercle bacillus as the primary cause and not to consider the others as secondary infections.

As far as the changes in the pleura itself are concerned, there is usually little difference from those in the simple fibrinous pleuritis. The process of recovery is practically the same except that the return to normal depends directly upon the degree of exudation. Large effusions are less frequently absorbed, small ones are most favorable but the results depend also upon the amount of formed structures present. Adhesions may form but they are much less common than

in the purulent type, particularly since it is the usual custom to tap early in the disease and thus remove the fluid.

The third type of pleuritis is the purulent, and it is the variety that is most serious. This condition, known as empyema, has been classified according to the form of causative agent, but this seems a useless refinement as in most instances are secondary to some pulmonary lesion. Of the organisms giving rise to this condition, the pneumococcus is the most common; it occurs in pure infections in about 40 per cent. The most frequently found is the streptococcus, some 20 per cent., while the staphylococcus is probably the cause in 3 or 4 per cent. The tubercle bacillus seldom gives rise to an accumulation of pus.

The characteristic exudate is thick and creamy, but it may vary greatly in color and consistency. It may be yellowish with various shades of green, brown or red, these latter depending upon the amounts of blood that may be present. The consistency varies according to the amount of serous fluid present. In regard to the odor, this may be absent or it may be horribly offensive, particularly if the condition is due to gangrenous process.

Although the exudate in this form usually contains from the very beginning, an excess of polynuclear cells, it may have started as a sero-fibrinous fluid, later taking on the purulent change. The specific gravity of such fluids is, as a rule, in the neighborhood of 1030. As a result of this severe inflammatory process, the pleura may become greatly thickened, almost cartilaginous in density, and at times containing a deposit of calcium. Capsulation of the fluid by connective tissue adhesions is more common than in the sero-fibrinous form. As a result of the condition of the pleura it is very difficult for absorption to take place and consequently the purulent material may remain indefinitely without symptoms. In one case fluid may have been present for forty years.

From a clinical standpoint an examination of the cellular characteristics of the exudate may be of some assistance in making a diagnosis but this does not properly belong to the study of the pathology of the pleura itself.

In addition to the changes that take place in the pleura there are numerous pathological disturbances that may occur in the lung as a result of secondary involvement. Whenever fluid escapes into the pleural cavity, there is some interference with the action of the lung. The degree depends quite directly upon the amount of exudate. This may be so great as to cause distinct compression with a more or less widespread atelectasis. If the exudate is of the serous type, there may be nothing more than the mechanical effect of the pressure. In an empyema, on the other hand, the lung itself may show chronic interstitial changes with purulent infiltration along the interlobar septa. Occasionally the pericardium, the peritoneum, or the opposite pleura may become infected and show a purulent infiltration, or there may be an endocarditis. Other changes in more remote parts of the body may occur but they are not germane to the subject of the paper.

PLEURISY—DIAGNOSIS AND PROGNOSIS*

W. J. FINDLEY, M.D., Sac City

Since it is practically impossible to group the various forms of pleurisy in an etiological way for diagnostic purposes, we will make no further attempt in this direction than to follow the general plan assumed by nearly all text-books upon this subject, and thus assemble the various manifestations according to the general course which the respective cases pursue in point of duration.

This means, briefly stated, a somewhat arbitrary division into the acute and chronic forms.

Under the caption "Acute Pleurisy" there is usually classified: 1. *Fibrinous,* plastic or dry pleurisy. 2. *Sero-fibrinous pleurisy,* which may serve as a blanket term to cover all forms of effusions in the pleural cavity.

Under the general head of *chronic pleurisy* we include all cases of the above types which continue for an undue length of time, and, as a rule, terminate in plastic adhesions, or those which occur in a very insidious way as a sequel to some chronic disease in the surrounding viscera, cases which are essentially chronic from the beginning; also certain types of primary infections.

Acute Plastic or *Dry Pleurisy* may be either a primary or secondary infection, circumscribed or diffuse, unilateral or bilateral.

In arriving at a diagnosis of acute plastic pleurisy, the nature of any co-existing disease of the surrounding viscera must first be taken into account.

The six classical symptoms which we wish to consider in conection with this diagnosis are *chills, fever, pain, friction sounds, dyspnoea* and *cough.* One or more of these symptoms may be absent in any given case.

An initial rigor or chill may or may not mark the onset of the infection, as in all other acute

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febrile disorders. In young children a convulsion may be induced under like circumstances in lieu of the chill. The severity of the chill may, in some measure, indicate the degree of the infection.

All chills, except those of nervous character, are followed by fever, as further evidence of infection.

Fever rarely rises so rapidly or to so high a degree as in pneumonia, and may either subside long before the physical signs of the pleurisy subside, or continue for an undue length of time; suggestive, at least, of tuberculosis or empyema.

Pain and its distribution constitutes perhaps the most constant and reliable symptom upon which to base a diagnosis in pleurisy.

In pleurisy the pain is sharp, lancinating and sometimes excruciatingly severe; intensified by motion, and usually at its maximum in the lower part of the chest where mobility is greatest.

In parietal pleurisy the pain may be found immediately over the seat of infection, or, more often, referred to either the mammary or axillary region, since the ability to locate sensory impressions is apparently most acute in these areas.

In *diaphragmatic* pleurisy the pains may be misleading indeed. Pains in this event are always referred to points distant from the seat of inflammation, and are oft times mistakenly interpreted as meaning pathology in the respective regions of their distribution.

As to sensitized tissues involved; Caps and others have shown by careful research that the visceral pleura is not endowed with pain sense. It is possible for inflammation of the visceral pleura to exist as a primary infection, or associated with tuberculosis or pneumonia occurring near the cortex of the lung, without being manifest by pain.

It is even possible for effusions thus to occur without active pleuritic symptoms.

On the other hand it has been demonstrated that the parietal pleura is very richly supplied with terminal sensory fibres from intercostal nerves, and it is from the parietal, rather than the visceral pleura, that all pain impulses emanate.

The pain and tenderness in parietal pleurisy will therefore be distributed over the well known anatomical course of these intercostal nerves.

Again, anatomists have shown definitely that the margin of the diaphragmatic pleura, including the whole crural area, is also supplied with an abundance of sensory fibres from the lower six intercostal nerves, which enter the pleura at the costal attachment. This clearly accounts for the pain over the epigastrium, lower thorax and lumbar region, which constitutes the distribution of these intercostal nerves, when the margin of the diaphragmatic pleura is involved.

It has, with equal certainty, been proven that the central portion of the diaphragmatic pleura receives its sensory nerve supply from the phrenic nerve, which in turn is said to be made up largely of fibres from the fourth, and sometimes the third, cervical nerve, the cutaneous branches of which are distributed over the neck and crest of the shoulder joint. This, therefore, accounts for pain being referred to the sensitized area of the neck and shoulder joint where the central portion of the diaphragmatic pleura is involved in the inflammation.

Since the sensory fibres of phrenic and intercostal origin interlace at their point of meeting near the margin of the diaphragmatic pleura, the cause of the simultaneous appearance of pain in the neck, shoulder, epigastrium and back will be apparent.

The pericardial pleura is sometimes the seat of inflammation. Here the pain is also referred to the neck and crest of the shoulder joint through the same medium as that of the central diaphragmatic area. The friction sounds are noted over the pericardia. The difference in the friction sounds caused by the rhythm of the heart's action, and that of very deep inspiratory and expiratory movements, together with determining the presence or absence of concurrent heart lesions, serves to differentiate between pericarditis and inflammation of the pericardial pleura.

Friction sounds are nearly always present as a very early symptom in parietal infection, disappearing as the opposing membranes become moist or separated by effusion.

Friction sounds at the base of the lung cannot always be determined, nor can they be relied upon to complete the diagnosis in diaphragmatic pleurisy.

Dyspnoea is usually intimately associated with pain and cough as an early symptom, affords not the least of the distressing features of the disease on account of air hunger involved, and is due largely to restricted respiratory movements on account of pain.

Cough, the sixth and last symptom which we are considering, is also an early symptom, as a rule, in acute plastic pleurisy. In some instances it is entirely absent.

Expectoration is usually slight, if not associated with tuberculosis or pneumonia, mucoid in character, and, on occasion, slightly blood stained.

Cough must be regarded as purely reflex, induced by irritation of some branch of the vagus nerve. Two of the most common sources of irritation of the vagus terminals are inflammation and pressure, both of which are commonly brought to bear upon the pulmonary branches of the vagus nerve in pleurisy, the latter in the event of an effusion.

A few of the more important affections of the chest which should be considered in arriving at a diagnosis in parietal pleurisy are, intercostal neuralgia, herpes zoster, angina pectoris, pseudo angina, pleurodynia and pericarditis.

Intercostal neuralgia usually presents the three well known points of maximum tenderness upon the chest wall, which serve to differentiate from general sensitization over the area covered by the affected intercostal nerve in pleurisy.

Friction sounds, cough, dyspnœa, etc., are absent in intercostal neuralgia.

Herpes Zoster may, at the onset, be mistaken for pleurisy. The absence of the usual signs of pleurisy other than pain, and later appearing characteristic eruption of herpes, soon clears up the diagnosis.

Angina Pectoris is marked by vice-like severity of pain, associated with valvular disease of the heart, or sclerosis of the coronary arteries, or both, a pain which is directly influenced by exercise, and independent of respiratory movements.

Pseudo Angina, represented by severe precordial pain extending to the left arm and bearing no relation to exercise or disease of the cardiovascular system, a disease which has a neurotic or toxic origin not found in pleurisy, and is usually very chronic. Aside from pain, other signs of pleurisy are negative in this affection.

Pleurodynia, or intercostal myalgia, a condition in which the pain is diffused over the affected area, as in pleurisy, and influenced by motion, as in torticolis and lumbago. In this the diagnosis must turn on the usual signs of pleurisy other than pain and tenderness over the chest wall, and the absence of associated disease which may induce pleurisy.

We have already spoken of differentiation from acute pericarditis, of its to-and-fro friction sounds which are synchronous with the heart's action, and out of rhythm with respiratory movements.

Diaphragmatic Pleurisy may be closely similated by sub-diaphragmatic inflammation, or infection, of whatsoever type. The latter infection may be either amœboid or bacterial, and derived from any of the abdominal viscera capable of producing a sub-diaphragmatic abscess.

The sensory nerve supply for the under surface of the diaphragm is exactly the same as that of the pleural surface, and pain is referred to the same areas in both instances.

Pain distribution and its character therefore are of no differential value in these two conditions.

Sub-diaphragmatic infection will be associated with a history of gastric or duodenal ulcer, appendicitis, hepatic or nephritic abscess, etc., accompanied by temperature, leukocytosis and other evidence of deep seated suppuration. In this the rœntgen findings will be of great value in determining whether the abscess is above or below the diaphragm. The exploratory needle is believed to be of doubtful value in this unless prepared for immediate operation if necessary.

Basal Pleurisy may, in rare instances, be a primary infection, but the very large majority of cases are extensions of pneumonia at the base, and the pleural involvement is essentially a part of the pneumonia and must be so diagnosed.

The same is true with tuberculosis and malignancy.

It is not however unusual for the basal pleura to derive its infection from beneath the diaphragm.

Cabot says that peritonitis often induces acute pleurisy, but the latter, or even empyema, rarely produces peritonitis.

From sub-diaphragmatic abscess the pleural cavity is involved either by transudation or perforation of the diaphragm.

The character of the infection of the pleura in this event must be determined by that of the underlying abscess.

Carcinoma of the stomach, involving the underside of the diaphragm, may cause referred pains exactly similating basal pleurisy, and may be differentiated by their larger duration, also the marked anemia, progressive loss of weight, vomiting, and usually the absence of free hydrochloric acid in stomach contents, which as a rule attends malignancy.

Gastric Crisis in tabes, even in the pretoxic stage, may cause severe epigastric pains closely resembling those of basal pleurisy.

Absence of the patellar reflex and the usual pupil signs of tabes may, or may not, be present, but a positive Wassermann reaction should make clear the diagnosis.

In children in particular, where the predominating symptom is abdominal pain, and the appendix can be excluded, the back of the lung should be taken carefully into account with particular reference to diaphragmatic pleurisy.

Sero-fibrinous Pleurisy furnishes a field of particular interest to the surgeon.

Effusions within the pleural cavity may evolve from almost any of the pathological conditions which we have already mentioned, and must be regarded as a symptom only.

By far the larger number of effusions which we meet are of the ordinary serous type of which Cabot says 99 per cent. are tuberculous.

This would strongly suggest the value of the tuberculin test in all serous effusions, some of which are even blood stained, and yet tuberculous. The x-ray, as well as exploratory puncture for microscopical and culture purposes, are valuable aids to this diagnosis.

Physical examination yields flatness and resistance upon percussion, diminished respiratory murmur, the absence of vocal and tactile fremitus, changeable fluid line, and possible displacement of the heart in the direction of the free chest.

These same well known physical signs apply to all classes of effusions in the pleural cavity, including empyema.

In serous effusions a low degree of leukocytosis may be expected.

There is a certain degree of evolution in pleuritic exudates.

Floyd of Boston believes that acute dry pleurisy, pleurisy with effusion and empyema, are but steps in the same process, and that the extent of the pleural reaction is measured and limited only by the virulence of the infection and body resistance. This perhaps explains why serous cases are sometimes found to be purulent upon second puncture, and gives to the operator somewhat of immunity from this responsibility.

Empyema is almost invariably post-pneumonic, and yet about one in ten of all empyemas are tuberculous.

The so-called delayed resolution in pneumonia almost always means empyema.

Persistent fever in pneumonia, greatly increased leukocyte count of the polynuclear type, and the usual signs of fluid in the chest cavity, mean empyema in almost every instance.

The pain in empyema, if present, is much like that of pleurisy.

Hemorrhagic fluid in the chest cavity indicates either a traumatic, very acute inflammatory or malignant origin as a rule.

Malignancy may exist within the pleural cavity without the effusion being hemorrhagic in character.

Dieulafoy says that effusions of cancerous origin in the pleural cavity are sero-fibrinous in at least one-third of all cases, most of which are hemorrhagic.

Metastasis into the external lymph glands, of which we have lately seen one extreme case, and progressive weakness not found in ordinary pleurisy with effusion, may give the first suggestion as to diagnosis. Here the x-ray is again valuable, yet may confuse compressed lung with the malignant growth, and thus lead to error.

A certain degree of chronicity, anemia, loss of weight, weakness, lymphatic involvements and rapid re-accumulation of fluid, whether hemorrhagic or otherwise, within the pleural cavity after aspiration, constitute, we believe, a clear clinical picture of malignancy.

Age and the possible absence of pain are not a bar to diagnosis.

Interlobar Pleurisy at the onset is perhaps the most difficult of all to diagnose. In almost every instance there develops an encysted purulent effusion. The very early symptoms are practically those of lobar pneumonia, lacking mainly the characteristic rusty sputum. No friction sounds can be detected. Later on increased dyspnœa and relative dullness over an area surrounded by resonance, located in the axilla or in the back, will usually tell the tale. The x-ray and blood count are perhaps the most valuable aids to diagnosis in this case.

For lack of space we will omit the discussion of mediastinal pleurisy.

Chronic Pleurisy is usually associated with old pleural adhesions, or long standing purulent conditions.

These cases of adhesions undoubtedly give rise to much of the chronic pain in the chest, neck, shoulder, abdomen and back that are so often noted in tubercular cases.

Dr. Lewis Sayre Mace of San Francisco, calls attention to several cases in which the symptoms produced by adhesions at the base seemed to point conclusively to gastric ulcer, even leading to gastro-enterostomy.

In gastric ulcer the pain is definitely related to the taking of food. Vomiting is usually present, with or without hæmatemesis.

Localized deep tenderness over a small and well defined area is noted, and the gastric contents usually show an excess of hydrochloric acid.

The whole or any part of the thoracic spine may become tender and chronic dyspeptic symptoms may obtain, as the result of pleural adhesions, particularly at the base.

Chronic rheumatism of the neck and back may in reality be referred pains from chronic pleuritic adhesions at the base.

Pleural adhesions may yield relative dullness upon percussion, diminished breathing sounds, retraction of interspaces, and some degree of vocal fremitus, as ordinary symptoms, which may be confirmed by the x-ray.

Transudates, which point only to some chronic pathology elsewhere in the body, must be differentiated from fluids of inflammatory type. The former are always associated with such diseases as are capable of causing passive effusions, or general ascites, and are not the product of pleurisy at all. They are usually bilateral, while the latter is, as a rule unilateral and caused by infection originating somewhere in the physical economy.

In conclusion—The prognosis in pleurisy necessarily depends upon the nature and extent of the infection. Some of the involvements are malignant and partake of the usual habits of their kind in other tissues.

The result is, in most instances, not so serious as to life as it is to invalidity and deformity induced by adhesions, etc.

Practically all post-pneumonia empyemas, which is the most common form in children, make a permanent recovery if properly drained.

Serous effusions of the pneumococcal type make an uneventful and rapid recovery after a single aspiration as a rule.

The prognosis in tuberculous serous effusion is regarded as good following aspiration, since the strong defensive power of the serosa may usually be relied upon to clear up the remaining mild infection.

A failure of empyema to clear up after drainage probably means tuberculosis.

Cabot states that he has never known a tuberculous empyema case to get well.

Streptococcus empyema, which is the most common type among adults, is the most serious of all, and free drainage in some instances fails to prevent septicæmia.

Streptococcus infection of the pleura may arise in the presence of almost any of the acute infectious diseases, and adds greatly to the gravity of the situation.

Septicæmia with secondary infection of the pleura, of which two cases have lately come within our experience, is most rapidly fatal.

Small effusions of any type may be associated with pneumothorax, yield no direct symptoms, and remain, oft times, to cause troublesome adhesions which are condusive to tuberculosis.

PLEURISY—NON-SURGICAL TREATMENT*

ROBERT L. PARKER, M.D., Des Moines

In the treatment of a pleurisy the writer is aware that he is treating a complication of some primary disease which must be located and properly treated if he expects results.

The primary source of infection may be pneumonia, a pus pocket in a tonsil, a carious tooth, rheumatic fever, lagrippe, or any of the acute exanthema.

Osler says to treat them all as tuberculous. Whatever the source of the infection may be, the immediate symptoms command our attention, the most important symptom being that of pain; this with fever constituting the principal conditions to be treated in an acute fibrinous pleurisy.

To relieve the pain, rest with immobilization of the parts by means of strapping gives the greatest relief. In addition to this, an ice bag may be applied over the painful area. The straps should not be left longer than four or five days because of the danger of adhesions forming. By thus immobilizing the parts, we only assist nature as she throws out fibrin and if necessary a serous fluid to protect the delicate endothelial cells of this serous membrane. Morphin or other opiates should be used early and in sufficiently large doses to quiet respiratory movements and relieve the patient. Morphin should be used in this condition for the same reason it is used in the inflammation of any serous membrane, as in peritonitis. To relieve the congestion, an initial dose of calomel followed by a saline should be used. This agent cleanses the bowel, relieves abdominal distention and thus makes the patient more comfortable. Tincture of aconite or tincture of veratrum, because of their power to dilate peripheral vessels, are beneficial in relieving the congestion and in lowering the fever. Hydro-therapeutic measures should not be neglected in this condition as in all febrile states. Bryonia has been used empirically. The principal therapy of this drug depends upon its resinoid constituents. These constituents iritate the mucous membrane of the bowel and act as hydragogue cathartics. I fail to see where they have any direct influence on the inflamed pleura.

Where there is objection to the strapping, various anodyne applications have been used with some degree of success. They usually contain salicylic acid combined with menthol, camphor,

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chloral hydrate, or some other drug of this class. Counter irritants accomplish but little. Iodides give relief if the condition is specific.

If in spite of treatment the infection goes on to a serofibrinous form of pleurisy, the problem of what to do with the exudate confronts us. As this is nature's mechanical means of immobilizing the inflamed parts, it should be left alone for a reasonable length of time unless it begins to embarrass the respiratory or cardiac function. The question of this exudate spreading the infection is more than offset by its power to immobilize the inflamed parts, and by the presence of antibodies in its substance. Other than for diagnostic purposes, I believe this serous fluid should not be trifled with until nature has used all her means to cope with the problem. There are no drugs that will hasten the absorption of this fluid. This is purely an exudate and not a transudate, and the means usually employed to rid the body of dropsical fluid only serve to exhaust the patient in this condition. Salicylates in large doses should be used because of their being taken up by the exudate and for their antiseptic value. Autoserotherapy, consisting of the withdrawal of two mils of the serous fluid and without withdrawing the syringe, reinjecting the fluid in the subcutaneous tissue, has met with considerable degree of success. Iodides have been used, but unless the condition is associated with syphilis, I question their therapy. Digitalis, if needed, should be used to support the heart and for its diuretic effects. A salt poor diet with restriction of liquids, such as recommended by the Hay's treatment, may be used.

If after ten days or two weeks the exudate has not decreased and thoracentisis has not already been performed, then this surgical procedure should be resorted to.

After the withdrawal of the exudate or its absorption, the question of permanent adhesions must be considered. These are best prevented by proper supportive treatment in the way of wholesome food, fresh air and respiratory exercises. Because of its power to absorb scar tissue, thiosinamine has been recommended to aid the absorption of adhesions. This agent is best administered intramuscularly in the form of a solution containing the double salt, thiosinamine-sodium-salicylate. Merck has prepared a solution in which two and three tenths mils contains two hundred milligrams of thiosinamine. This is best administered two or three times a week.

THE SURGICAL TREATMENT OF EMPYEMA*

L. W. Littig, M.D., M.R.C.S., Davenport

Exploratory puncture of the pleura hardly attains the dignity of a surgical operation, is usually considered entirely free from danger, yet serious consequences and even death have followed. Among the accidents reported by Dayton are localized pleuritis, subcutaneous emphysema, puncture of the diaphragm and of the stomach, hemorrhage from an abnormally placed and atheromatous intercostal artery, and hemorrhage from an aneurysm of the aorta.

Most interesting are the sudden and entirely unexpected deaths that sometimes follow exploratory puncture, and assumed to be due to the fact that the visceral pleura is injured by the point of the needle. Dayton reports twenty-three such deaths. In most of these patients there was, in addition to the pleuritis, some chronic inflammatory process involving the lung, a condition which makes injury to the visceral pleura almost unavoidable, especially if the parietal and visceral pleuræ be adherent. It is in the visceral pleura that the vagal plexus is found, and sudden cardiac or respiratory failure, coma, convulsions, and paralysis, which sometimes occur where the visceral pleura is injured, are believed to be due to injury to the vagal plexus. Fortunately these tragic accidents are rare, but it is well that their possibility be remembered.

Considering all the dangers of pleural puncture, Dayton wisely concludes by saying: "Do not be too ready with the needle, but do not delay when its use seems indicated, as delay causes more deaths than all the accidents due to exploratory puncture," a conclusion which is readily endorsed.

It is hardly necessary to say that great care and surgical cleanliness should always be employed when making a pleural puncture. The needle should be lightly held and guided by delicate and appreciative fingers. Is the point free as when entering a cavity containing fluid or air, does it pass through dense resisting tissue, does the point come in contact with the visceral pleura, as indicated by respiratory movement? The needle must be sufficiently large that it may not readily become clogged with coagula, and it may be necessary to introduce it several times before the sought for evidence is obtained, or the negative result accepted as final.

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The surgical treatment of dry, non-tuberculous pleurisy is exceedingly simple. Several strips of adhesive plaster, some three inches wide, overlapping one-half, applied during the height of expiration, and extending half way round the affected side, and forming a splint some five or six inches in width, very effectually limit respiratory movement and thus relieve pain. Some venturesome spirits have suggested the introduction of nitrogen for the relief of pain, the thought being to separate the inflammed surfaces of the pleura, thus preventing friction and the accompanying pain.

Dry tuberculous pleurisy, with a coarse leathery friction murmur, may be benefited by the introduction of 200 cc. of nitrogen, to be followed by a second introduction of 300 cc. of nitrogen two days later, and a third 300 cc. of nitrogen one week after the second, the thought being to separate the inflamed surfaces and thus relieve pain.

In simple pleurisy with effusion, the fluid should not be removed unless it cause embarrassment to the patient, or continue for a period longer than several weeks. To remove the fluid, an aspirator should be used, and the operation discontinued just as soon as the patient is distressed by coughing or by severe pain. It may be necessary to repeat the operation several times. It need hardly be stated that rigid asepsis must be observed, lest a serous fluid become purulent as a result of this slight surgical interference. Local anesthesia by freezing or novocaine, or even the injection of sterile water into the skin, may be employed. In the absence of an aspirator, a rubber tube some three feet long and attached to a small trocar, both tube and trocar being filled with water, and the tube clamped with a hemostat (to hold the water) before the trocar is introduced, will afford considerable "pull" and facilitate the removal of the fluid. It need not be stated that the lower end of the tube should be immersed in sterile water in a basin on the floor. While the fluid is being removed the needle should always be gently held, that its contact with the visceral pleura may be very promptly recognized and the needle slightly withdrawn.

The treatment of empyema is really the important part of the surgical treatment of pleuritis. It may be stated that the presence of pus in the pleural cavity indicates an open operation for its removal, and followed by constant drainage. The injection into the pleural cavity of 10 to 20 cc. of a 20 per cent. mixture of iodoform and glycerin, as suggested and practiced by Von Bonstorf and Antonucci, may be considered; or the injection of the same amount of 2 per cent. formalin in glycerin, especially in tuberculous pleuritis; or the heavier toxic fluid may be replaced by a lighter, non-toxic and non-absorbable fluid, as liquid paraffin, a method practiced by McKenzie of Portland; but thoracotomy with constant drainage remains the procedure most employed, likewise the best.

It is the general practice to remove a piece of the seventh or eighth rib in the middle-or the post-axillary line, and to introduce either a rubber tube of suitable size, or a Wilson or Brewer wide flanged tube. Two rubber tubes may be placed in the same opening, or a second opening may be made a little higher or lower than the first by cutting directly down on the finger introduced into the pleural cavity, through first opening, a piece of rib not being cut away at this second point. A fenestrated drainage tube is then introduced into one opening and withdrawn from the other. It is absolutely impossible to lose a tube used in this manner. There is no free end projecting into the pleural cavity, the tube does not become misplaced, and the introduction of a smaller tube to take its place is a very simple matter. Likewise, the tube may be cleaned without the slightest difficulty. It need not be said that every tube must be safely anchored, as the loss of a rubber tube in the pleural cavity may be followed by very serious consequences both to the patient and to the doctor. Should a tube be lost, it must be located at once with the finger or the x-ray, and must be recovered. A local anesthetic is usually entirely satisfactory, preferably novocaine. This answers every purpose, even when necessary to remove a portion of a rib.

Whether to employ suction or not is an unanswered question. Many contrivances, some of them very ingenious, have been suggested. An electric vacuum cleaner has been used, also a water air pump, and a pump with a vacuum tank, but I quite agree with Dowd who says, "Suction is not needed in the absence of adhesions; in the presence of adhesions it is inefficient." Suction is but little used in the Mt. Sinai hospital, spirometer baloons being preferred. Coughing is a great aid to expansion of the lung. Moderate suction can easily be secured, however, with the aid of oiled silk and a properly applied dressing, which will permit the escape of fluid and prevent the return of air. A very simple contrivance suggested by Ransohff of Cincinnati, can be improvised by cutting the end of a drainage tube on a very long bias, then tying the finger of a rubber glove over the end of the tube, a glass spindle with flanged ends being inserted into the rubber tube in order to make a firm tie. With a small

slit in the end of the rubber finger, an excellent one way valve is formed and fluid readily escapes but air cannot enter.

In the presence of collapsible pus cavities, the above are the simpler and more efficient means of treatment, and I shall not refer to more complicated procedures.

To flush the abscess cavity with an indifferent sterile solution, or to introduce an antiseptic solution, is a procedure without value, and not to be recommended.

Not infrequently a thoracic sinus persists, usually due to the fact that the visceral pleura is thickened and contracted, and does not permit the lung to expand sufficiently to obliterate the cavity. Bismuth paste is of very little value, as it has no power to bring the surfaces into apposition. In regard to the use of bismuth paste, the following "accident" may be of interest. I had suggested to a medical friend that he try the paste, the case being one of persisting sinus. The doctor had injected about one ounce of the paste when he noticed that the patient was breathing with difficulty, death following in a few seconds. This sudden and very tragic death in a doctor's office is explained with difficulty, unless it was due to injury to the visceral pleura. It is difficult to conceive how the paste could have entered the circulation.

I shall not describe the various operations for the relief of persistent sinus, but simply state that the Estländer, Fowler, or Delorme operations are to be considered, with the preference in favor of visceral pleurectomy.

I wish to briefly report a case of empyema which I consider rather unusual. The patient, a middle aged man, had been seeking health in sanatoria for eighteen years, taking with him all the time the diagnosis of tuberculosis. However, I doubted the correctness of this diagnosis, and after careful percussion and auscultation, introduced an exploring needle, which revealed a very thick pus. Drainage was at once instituted but the sinus refused to heal. Finally an Estländer was done and the finger in the pleural cavity disclosed the fact that the abscess cavity was lined by a wall of lime salts which had been deposited in a sufficient quantity to make an actual wall of stone about this cavity. A lithotripsy was done, the wall being broken up by means of a curet and the finger. Prompt recovery followed with a gain in weight of sixty pounds within a year.

In conclusion: I have avoided every procedure that is unique or unusual and have presented only the more simple methods which can be carried out by the average man with the greatest safety to his patient and with promise of best results. However, I trust that no member present will hesitate to present better methods if he has had sufficient experience with the same to warrant an endorsement.

Discussion

F. J. Rohner, Iowa City—The medical treatment of pleurisy begins with the control of pain, and the control of pain is usually an easy matter. Our responsibility, however, does not cease with control of the pain. As has been so well brought out, we must look into the etiology of the pleurisy and attend to that. The essayists have quite thoroughly covered the subject in all its branches. During the past few years nothing new has been brought out in the treatment of pleurisy, yet the old mistakes are still being made in connection with the diagnosis of empyemas. It is up to the medical men to diagnose empyemas early and not let them go unrecognized for weeks or months. One of the first things that should be done in a case of pneumonia is to locate in the early stages, when first called, the site of the apex of the heart. Then if your case of pneumonia does not clear up, but goes on and continues to run fever, one of your first clews as to development of an empyema may be a displacement of the heart. If you have a record of the former location of the apex beat, you have a clew to the fact that there is fluid in the pleural cavity which may be an empyema. Really I believe there is no such thing as delayed resolution; it is either abscess, gangrene, or an empyema. Again, when first called upon to treat a dry pleurisy, locate the apex of the heart; then later if the apex is displaced, you may be almost certain there is fluid in the pleural cavity. It is often difficult to determine, especially in children, whether the condition is due to fluid or to a consolidated lung; but bearing in mind that a consolidated lung never displaces the heart, while fluid nearly always does, may be the solution of what would otherwise be an obscure case. In exploratory aspiration of chest to determine the presence of fluid or its character, a needle of fair size calibre should be used, and one negative aspiration should not be conclusive evidence that no fluid is present.

F. M. Pottenger, Monrovia, California—The symposium presented to us is very interesting as well as important. In spite of the fact that pleurisy has been known for years, its descriptions are not accurate and it is not fully understood by the profession today. The acute pleurisy which we know is, as a rule, the one which involves the pleura over the bases of the lungs; but pleural inflammations are continually going on near the apex of the lung with no recognizable symptoms. We find on post-mortem that the apex of the lung is adherent in many instances where the patient had never complained during life. The difference in the manner in which pleurisy manifests itself at the apex and at the base, is due to the difference in the respiratory movements of these two portions of the lungs. In order to un-

derstand this we must consider that portion of the pleura and lung under the upper five ribs as differing from that of the lower seven. The lung under the upper five ribs expands forward and upward, while in the case of the lower seven, the expansion is downward and outward both forwardly and laterally. In observing lungs during post-mortem, one will note that the upper five ribs are imbedded more or less in the lung tissue, leaving fissures; consequently there is little motion between the costal and parietal pleura, and a sharp infection can be present with little or no pain. In the case of the lower seven ribs, particularly the sixth to tenth, the ribs are not imbedded in the pulmonary tissue, the surface of the lung is smooth, and here the excursion between the surfaces of the parietal and pulmonary pleuræ is considerable. Consequently, inflammation over this portion of the lung is attended by considerable pain. I should like to call attention to a very interesting discussion of the pathological changes in the soft tissues over the pleura which is involved in adhesions, made by Dr. G. Coplin. He shows that the intercostal muscles and nerves undergo pathological changes, and in this way he accounts for the neuritis which exists in cases of old chronic thickened pleura. In patients who suffer from apical pleurisy, this type of pain is extremely common although it does not seem to be sufficiently recognized clinically. In medicine we have not paid sufficient attention to pain as a symptom. Pain always means something, and if possible its origin and the nature of the conditions producing it, should be determined. Patients with pleurisy at the base often suffer from more or less periodical aching and pain in those regions which receive the afferent impulses from the part involved. The reason for this is that the nerves are chronically inflamed and subject to the various conditions which make the pain evident, such as a general lowered resistance of the patient, changes in weather, etc. The pain of pleurisy may be sharp, dull, boring or burning—in fact, it may be any type of pain. It is not always the sharp pain spoken of in text-books. Diaphragmatic pleurisy has been mentioned. Diaphragmatic pleurisy is very interesting. The costal portion of the diaphragm is supplied by the lower six thoracic nerves. Those same nerves furnish impulses to the lower six intercostal muscles and the abdominal muscles, and sensory changes over not only the lower six intercostal spaces but the skin of the abdomen as well. Consequently pain may be felt anywhere along the course of these nerves when the portion of the diaphragm is involved. Sometimes the motor changes and sensory changes are confined to the intercostal areas; at other times they are expressed more particularly over the abdomen. This is extremely important at times in differentiating between supra-diaphragmatic and infra-diaphragmatic inflammations. The central portion of the diaphragm, on the other hand, is stimulated from the phrenics, which take their origin from the cervical portion of the cord, arising from the third and fourth, or fourth and fifth segments. When the pleura covering this portion of the diaphragm is inflamed, the pain instead of being expressed in the region of the diaphragm, is transferred through the cervical nerves to the regions of the neck and shoulders. It manifests itself particularly in the third and fourth cervical zones. The question of pleural versus pulmonary rales is a very troublesome one in medicine. It is at times impossible, even with great experience in chest diseases, to locate the source of rales with positiveness. In many cases of tuberculosis, rales will persist regardless of the fact that the patient has made a complete recovery and has no symptoms. I have gradually come to believe that the rales which persist over old quiescent areas of pulmonary infection, are usually extra-pulmonary. Sometimes they are in the pleura and due to adhesions. At other times they are due to stretching of the pleural tissues which are thickened. Still another factor is the pathological change in the muscles overlying the pleura. After many years of experience, I am still at times unable to satisfy myself definitely whether the rale is pulmonary or extra-pulmonary. One can determine the presence of old pulmonary inflammation, however, by a study of the trophic changes which are produced as a result of chronic inflammation in the pleura. The pleura is supplied by the twelve intercostal nerves. Continuous inflammation of the pleural tissue over any one or more of the intercostal spaces produces stimulation of the respective intercostal nerve or nerves, and this irritation shows itself in reflex trophic changes in the subcutaneous tissue and other soft structures which are supplied by the intercostal nerves. As a result, we find a degeneration of the subcutaneous tissue and muscles which receive their nerve supply from the thoracic segments. This is well shown in the study of the subcutaneous tissue over the chest; and in patients who have had intrathoracic disease, it will usually show whether or not there has been a pleural involvement. During the acute inflammation of the pleura, there is also a spasm of the intercostal muscles, and if the inflammation goes on to a chronic process, the intercostal muscles become tense and doughy, and if fortified by thickened pleura, give a decidedly tense feeling to the palpating fingers. This study of the intercostal muscles and subcutaneous tissue over the chest I would suggest as being very valuable in giving one information of intra-pulmonary diseases. Treatment—I heartily endorse the conservative treatment of pleurisy which has been recommended here today. I think there is entirely too much tampering with fluid in the chest. It is harmless unless it is purulent or unless it is encroaching on important organs. I find medical men think far more of detecting a little fluid in the chest than they do of detecting more serious trouble in the underlying lung. The small amounts of fluid are practically harmless. Unless there is definite evidence suggesting pyogenic infection or severe pressure symptoms, I would not even insert a needle for diagnosis. In cases where purulent fluid is found, if it is of tuber-

culous origin and is simply a tuberculous detritus, it should be let alone. The only type of case which calls for operation is the non-tuberculous pus infections. As far as the removal of fluid is concerned, at times where the pleura is filled and the pressure is marked, absorption is interfered with by the pressure itself. Under these circumstances, the withdrawal of a very small amount of fluid will relieve tension and permit absorption to go on.

W. E. Scott, Adel—I want to speak of a few points in connection with examination of the chest. First, have the patient in a thoroughly relaxed position. If the patient has one arm over the chair-back, there is present the roaring of muscular contraction as the muscles are on a tension which interferes with all the sounds that you are testing for. Dr. Osborn referred to the sounds that are heard when the patient puts each hand on the opposite shoulder, and when you have the muscles in such a degree of tension as is necessary to perform that act you necessarily have more or less of the muscle sound which should be entirely eliminated by a relaxed position. Second—In auscultating the chest, it is well also to bear in mind the fact that the muscles of respiration have the sound of muscular contraction the same as any other contracting muscles, and that we have here a certain amount of the vesicular respiratory murmur even when the chest is full of fluid or when no air is entering the lung, as shown very conclusively by the case that has been reported by Dr. Hoover in which there was such severe hiccough, causing complete closure of glottis, and yet there was present the vesicular respiratory murmur. Dr. Hoover attempted to explain its presence on another theory, but I am positive that the vesicular respiratory sound present was due to the sound of the contracting muscular tissues that are used in respiration, and it was found more pronounced on inspiration because of the fact that inspiration is a muscular action while expiration is a relaxation. And this corresponds with the physiological fact that the vesicular respiratory murmur is very much more pronounced in inspiration than in expiration because of the extent to which the muscles are used in inspiration. If any of you will take the trouble to notice the sound that you perceive by placing the finger in the external ear, and then listen to the vesicular respiratory murmur, you will hear the same sound which is due to the same cause—the sound of contracting muscle in your arm and hand. And so the vesicular respiratory murmur must necessarily include the sound of contracting muscle. This same roaring sound is also produced by contact of the fingers with the ordinary stethoscope. One point I wish to make is that in auscultating the chest, bronchial breathing is not always necessarily present when the chest is full of fluid, as the vesicular respiratory murmur is present, i. e., that portion due to muscular contraction; the other, that complete relaxation of muscles is necessary to good results in examination of the chest.

James H. Goad, Afton—In regard to thoracic puncture, Dr. Littig has given us something that appeals to me. I did this more or less for several years and considered it a perfectly safe procedure when carefully made, until a patient went into collapse and for a short time I thought he was dead, but he finally recovered. And I had this happen two or three times in succession until I became afraid of puncture. Finally Dr. Sampson said, "Give them a little atropin before you make the puncture and you need have no fear." I do not know whether that holds in all cases but I have used it since and it so happens that I have had no trouble since in making thoracic puncture in the pleural cavity. I thought this might be a useful suggestion; however it may or may not be of value.

Donald McCrea, Council Bluffs—I would like to ask a question that bothers me. The statement was made by one speaker that it is advisable not to tamper with fluid in the chest unless it is pus, that it is best not to aspirate. It has been my experience that it is sometimes extremely difficult to determine without aspiration whether the fluid present is pus or serum. If we assume that it is serum and do not aspirate, we are doing a dangerous thing. On the other hand the question is whether aspiration is a serious enough procedure to prevent us from using it in diagnosis. On numerous occasions I have been requested to distinguish between pus and serum in the chest, and personally I have been unable to make that diagnosis from the outside. From the experience I have had with my friends, I think they are practically in the same boat, and so it seems to me the only thing to do where suspicious is to aspirate. I am old-fashioned enough to believe that yet, because I know that many of these cases of pus in the chest are overlooked and called serum when they are thick, creamy, pyogenic pus. If there is any way of positively determining the question of pus or serum without aspirating, I would like to be advised of it and the rules laid down by those who know more than we do about it.

Dr. Osborn, Des Moines—I do not care to add to the discussion except to say that the object of this symposium was to bring to the attention of the Society the importance of pleural complications. In preparing the program this year it was found that for eight or ten years the Society had paid no attention to this subject, and I hope that the essayists and those taking part in the discussion have succeeded in making it sufficiently interesting that you will not feel the time has been wasted.

Dr. Parker, Des Moines—In answer to Dr. McCrea's criticism, the statement in my paper was that other than for diagnostic purposes I believe this serous fluid should not be trifled with until nature has used all her means to cope with the problem.

Dr. Littig, Davenport—I was very much interested to hear Dr. Goad report his experience with the puncture in cases in which patients have gone into shock and collapse. The statement attributed to the

orator of last evening, Dr. Sampson, that a little atropin would prevent this, is quite plausible. As stated in my paper, it is said that vagal fibres are distributed to the visceral pleura, and atropin is the direct depressant of the vagus. And this agrees perfectly with the teachings of Ettinger and Hess that atropin should prevent, at least in large measure, these accidents which sometimes occur from the use of the needle. I want to quite agree with Dr. McCrea. I think I stated as plainly as I could that the benefits of thoracic puncture so far outweigh its dangers that its use should always be resorted to in the making of a diagnosis.

UNUSUAL OPPORTUNITIES FOR SURGICAL WORK AND ORIGINAL INVESTIGATION*

W. B. LAFORCE, PH.B., M.D., Ottumwa

I refer to the opportunities in foreign mission fields. This is an unusual subject to present at a state medical meeting but the more I have investigated and studied the theme, the more I have concluded that it is one of very great importance and of special interest for our consideration.

I appreciate the fact that the members of the Iowa State Medical Society are of varying religious beliefs and even of none. Therefore I shall not treat the subject from the religious standpoint. But as medical men, both physicians and surgeons, we belong to a so-called liberal profession whose aim and spirit is humanitarian and philanthropic. No one enters this profession in order to become rich, and aside from a fairly comfortable living, the rewards of our work come largely from a consciousness of giving relief from suffering, of helping those in great need, of patient and faithful doing of duty, and of contributing to the world's knowledge of medical science.

This paper will therefore attempt to set forth greater opportunities for meeting these aims of our profession. The altruistic and scientific spirit are united in our profession as in no other, what helps one generally helps the other. As the spirit of altruism is fostered chiefly by religion, we find historically that medicine and surgery have always been closely associated with religion.

Thus in all countries priests were the first physicians and surgery is especially indebted to Christianity for so until Christ came, and His spirit and teachings were followed, there were no hospitals.

Edward Bok, the distinguished editor of the Ladies Home Journal, states "When that Babe Christ was born, there was not in the whole town of Bethlehem, or the City of Jerusalem, a hospital in which the mother could have found shelter."

"All who follow the Christ are bound by His supreme example to care for the sick and to work for the cure of disease." So we are not at all surprised to find that the first hospital in Rome, possibly the first hospital in the world, was raised by a Christian, Fabiola, the friend of Jerome, and there she tended the sick with her own hands, devoting all her possessions to their use, and finally extended her pity to the outcast lepers whom she gathered together that she might wash their wounds and heal their griefs. And this work of mercy has been carried through all the centuries of the Christian era."

In preparing this paper, I have consulted a large number of writings and quoted from them at length.

In all the heathen and Mohammedan countries, less is known of surgery than of medicine, and where in this paper I use the term of doctor or physician, the surgeon is also meant and the need for surgeons is even greater.

The suffering in non-Christian lands is inconceivable, due chiefly to three causes: (1) Almost a total absence of hygiene. (2) Wrong ideas as to cause of disease. (3) Wrong methods of treatment which is generally worse than useless.

About four years ago, Professor Martin Edwards of Harvard University, U. S. A., visited China in the interest of a scheme for the establishment of a Harvard medical school at some center of that land. Upon his return he issued a report in which he sought to bring home to the people in America the medical condition of China, and the following extract, which we here beg to quote, will serve most admirably to convey a conception of the physical needs of one of the greatest mission fields.

"Perhaps we can get a better idea of China's medical condition if we think of it in terms of our own land. Imagine if you will, our country of ninety millions and the splendid institutions for the preserving and betterment of public health. Now in order to get a real conception of what China is, we are going to begin a process of elimination."

"First, we will take out of this country of ours, all the hospitals we have, save one item (207) that being the number that there are in China. Next take away the infant's hospital and every hospital that is given to taking care of the mother in her hour of need. Next we take the greater number of the dispensaries for our

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poorer people and leave them without care. Let us go further and dismiss from every state and city the boards of health. The sewers then of each city must be filled up, and all the various institutions that are acting to preserve good healthful conditions for the individual and the city, must close its doors. Now it seems as though that is enough to take away from this country of ours, but we will have to do more. All of our medical schools, save one, and that only established three years ago, must disappear. We will still go further and take away from our ninety millions of people all the scientific knowledge we have of how disease is caused and how transmitted."

"Then take this forlorn country, and pack it full of tuberculosis, put it in every home. Leave no city without small-pox. Scatter everywhere the other countless diseases which we have here in greater or less extent. Then place in the southeast area the bubonic plague, and see that no state of the Atlantic coast is free from the devastation of cholera. Then all over this stricken country spread the loathsome leprosy. And when that is done, summon just four times as many more people all of whom desire, as we, to be healthy and strong, and whose hearts, strange to say, love and suffer and break, even as ours, and say, 'Here is where you must live.' and that is China."

Asplund sums up the attitude of the Chinese so far as the general welfare of the community is concerned as that of "Dirt, Disease and Doubt." Dr. Phillips when at Ping Yin, wrote that there were no really clean pools in Sahntung, and that she had often seen a mother washing clothes in the greenish back water of some stagnant pool, while the child at her side was drinking that same water with evident relish. "China," writes another missionary, "is notorious for the entire neglect of proper sanitation." Peking, the capital.....has been pronounced by competent judges as the dirtiest city on earth, and a native Indian army surgeon declares that "it is almost needless to enter upon a description of the sanitation of an Indian village, for there is a total absence of it."

Dr. H. W. Boone, president of the China Medical Missionary Association: "See what the Chinese know about medicine. They have no proper methods of examining the sick. Auscultation, percussion, the use of the thermometer, and all the varied appliances at our command for interrogating the patient, are unknown to them. Their drugs are crude, inert or drastic."

THEORIES OF CAUSE OF DISEASE

The different attitude toward disease springs out of a different conception of God. Christ brought into the world the transforming idea that God is love. The non-Christian mind is still largely dominated by the idea that God is at enmity with men. The normal attitude towards Him is fear. They imagine him to be if not always actively hostile, at least extraordinarily captious. The Christian missionary is engaged in the stupendous task of completely changing the idea of God, and in seeking to accomplish the task he uses the art of healing as no mere accessory even providentially placed in his hand.

Throughout the east much sickness is believed to be the work of demons. The sick person at once becomes an object of loathing and terror—is put out of the house, is taken to an outhouse, is poorly fed, and also rarely visited, or the astrologer or priests, or medicine men, or the wizards, assemble beating drums, and gongs, blowing the horns, and making fearful noises. They light gigantic fires and also dance around them with their unholy incantations. They beat the sick person with clubs to drive out the demon. They lay him before roasting fire till his skin is blistered—then throw him into cold water.

Among the natives of the South Pacific Islands, "cutting is the universal remedy for every ailment. If pain in the head is felt, then an incision, or perhaps two, is made over the part "to let the pain out," if diarrhœa is the complaint, then cuts are made over the abdomen; if rheumatism, deep incisions are made over the part affected; if fever, various parts of the body are cut.

In Africa the general belief is that disease is the result of witchcraft, and the only doctors they have are the witch doctors, whose business is not to diagnose and treat the sick or the dead, but it is to discover the one who bewitched. To accomplish this the doctor arrayed in a hideous garb, assembles the inhabitants of the village or town, and after a beating of drums and a time of dancing, selects some poor wretch, man, woman or child, as the perpetrator of the deed.

A cloud of despair seems to hang over the non-Christian races and to render them helpless if they are overtaken by misfortune or calamity. The Mohammedan finds no reason for action when disaster overwhelms him, for it is "Kismet"—an unalterable fate, while the Buddhist only seeks to suppress the sense and emotion and to practice indifference that he may attain to

complete detachment. Thus he finds his ideal in the face of the Buddha, a face of cold and apathetic calm. So long as the lovelessness of God and the helplessness of man is taught, it is impossible for joy, that further fruit of the spirit, to come to fruition, men cannot gather grapes from thorns, or figs from thistles. Where, then, we look for mastery, the East only looks for escape or helpless weary resignation.

Naturally such fatalism presses very hard on the weakly and disabled, for it is taken for granted that any affliction not in the nature of ordinary illness is irremediable; and that as it was probably caused by sin committed in some former life, it is a just punishment to be borne without complaint and regarded without pity. There are, for instance, two hundred thousand or more lepers in India, and, approximately six hundred thousand in China, and two hundred thousand in Japan, all of whom are left unrelieved and unassisted on this account.

Fatalism answers for pain:

1. We cannot have our way, "Kismet"—it is fate: and so without resistance they accept the dirt, the disease, the suffering yes, even the sin as inevitable,—and the bitter fruit of this spirit is despair.

SUFFERING OF WOMEN

But the burden of unnecessary suffering is laid most heavily on the women and girls in eastern lands for there the inferiority of women is part of the religious belief, and they count for a good deal less than the monkeys, cows and other sacred animals.

A large proportion of special women's work is conducted in the homes of the people, where the women physicians or nurses alone have access. "Shortly after I reached India, the tyranny of this custom, says Dr. Mary Scharlieb, speaking of purdah," was forcibly brought to my notice by the fact that a Mohammedan girl in labour with her first child got into a very serious difficulty, which the ignorant woman who was attending her was quite unable to overcome. Her husband was very tenderly attached to her, and waited long in vain for her relief, he finally went in search of a male doctor. The dying girl dragged herself off her bed and lay down across the floor. She told her women friends, who stood by in helpless misery that she could never submit to such dishonor, and that the man doctor would enter the room, only over her dead body, and in spite of entreaties of both husband and friends, the girl lay there until she died."

Medical women are the only ones who are permitted to enter the harems and Zenanas of millions of the women, and almost all of the medical women in India are missionaries, the majority of them have been sent from America. There are tens of thousands of sick women in the central and northern portions of the empire who would rather die than have a male physician attend them in sickness and childbirth but they welcome women physicians, who are annually relieving thousands of sick in their homes and tens of thousands in their dispensaries and hospitals.

We never think of the wrong done to her undeveloped frame, nor do we care if premature motherhood ruins her tortured nerves.

Wives are bought like any other goods and chattels and become the absolute property of the husband, who may of course, do what he will with his own. During a recent famine in China it was easy to buy a woman for the equivalent of a sovereign.

CHINESE DOCTORS

In a land governed by examination, it is strange that no examination or qualification of any sort has been required for a man to start a practice as a doctor, in fact the medical profession still continues to be frequently used as a refuge for those who have helplessly failed in other pursuits.

The usual way for a Chinaman to enter the profession is to procure a pair of spectacles that have wide bone rims, some grasses, and herbs, and some venomous snakes, an assortment of spiders, the snakes he places in bottles in his shop window. Here is a prescription:

Powdered snakes two parts.
Wasps and their nest one part.
Centipedes six parts.
Scorpions four parts.
Toads twenty parts.

Grind thoroughly mix with honey and make into small pills. Two to be taken four times a day. In cases of debility, the bones of the tiger are reduced to powder, and made into pills, are administered as a tonic. They reason thus: the tiger is very strong and the bone is the strongest part of the animal, therefore a pill of this must be pre-eminently strengthening.

The Chinese have a very extensive medical literature but no works on anatomy or physiology. The kind of teaching imparted may be gathered from the following description of the pulse in its relation to disease. "There are three pulses in each wrist. A man's strongest pulse is

in his left wrist, a woman's in the right. In a man, the pulse that lies nearest the hand is stronger than those that lie above; in a woman just the opposite is true. In the left hand are located the pulses showing the diseases of the heart, the liver and the kidneys, while the right hand pulse indicate the diseases of the lungs, the spleen, and other organs."

Dr. Ashmore describes the teaching of anatomy by the Chinese, in substance as follows: "A wooden number, a statue of a man is constructed, into which are bored a number of holes; a curtain is thrown over the figure and the student is taught to thrust the needle into certain holes on the statue. There are supposed to be certain locations represented by these holes, which, if punctured, will allow the exit of the evil spirits supposed to be the cause of the disease."

Chinese doctors have been roughly divided into two great classes: "Internal body doctors and outside body doctors," of which the former are the more numerous. In addition to this, there are "eye doctors, small-pox doctors," etc. How these distinctions work out to the oft-time detriment of the poor patient is illustrated by a case reported by Dr. Duncan Main, of Hangchow. A Chinese carpenter pierced his foot with an ugly splinter. An "outside doctor" being at hand, said that for the usual gratuity he would attend to the foot. This being paid the splinter was promtply cut off level to the surface of the foot, and then a plaster made and stuck on! The patient being still in great pain, asked if the splinter was out. The only answer he received was that the doctor not being an "inside doctor" would not presume to remove the rest of the wood."

The external doctor boldly professes to be able to puncture the body with a skewer in no less than 367 places in order to "let out the wind" for they maintain that wherever there is swelling there must of necessity be wind. As the 367 places include the lungs and the stomach, the results may be well imagined and a puncture is often responsible for diseased joints and deep suppurating wounds, if not for blood poisoning and death."

"Pinching, kicking, twisting, needling are all practiced here. It often gives more trouble to undo the fatal effects of the treatment than to cure the original complaint. Pinching seems however, to be very soothing to hysterical women, and we often see them with a collar of bruises about their necks. Needling is extremely common; the professional needle is a lancet shaped instrument, with a handle of twisted wire, but the domestic article is more commonly used, and sometimes disappears into the part under treatment. The Chinese still probe the abdomen with red hot needles as a cure for cholera, or thrust the needles into the lungs for pneumonia.

Sometimes patients may be seen with little earthenware vessels full of burning charcoal placed on their chests, and allowing it to remain there till the flesh on the breast is actually roasting beneath, hoping in this way to propitiate the anger of the evil spirits they so much dread, and gain immunity from the disease that threatens to aflict them.

PNEUMONIA

In Africa, in cases of bronchitis and pneumonia, the practice is to place cones of sulphur over the chest and set fire to them. (Veritably counter irritation with a vengeance.) In November, 1893, an Arab woman was arrested for having treated a sick child near Wilkes Barre, Pa., by branding his body with a hot iron cross, after the manner of the country in which she was born.

INSANE

There are two large classes of patients in non-Christian lands peculiarly deserving our pity. The first is that of the mentally defective. The idea of demon-possession finds its fullest expression in the treatment meted out to these unfortunate persons. Being supposed to have incurred the wrath of the gods, they are thought of, not as objects of pity, but as possessed of an evil spirit.

South America is called the "neglected continent" because she is mortally soaked in sin, she is physically rooted and rotting with disease. While her ignorant millions are either surfeited with superstition or held in the abject of thraldom of death-healing depravity.

IMPORTANCE OF MEDICAL MISSIONS

1. As a philanthropy.

Even, if for no other reason, the purely physical relief afforded to the sick in heathen lands through medical missions, even if unaccompanied by spiritual results, is in itself sufficient to commend them to the support of Christians and philanthropists everywhere.

For the sake of self-protection in the Orient, we should have our doctors go to the Orient and help clean up these Asiatic activities for never will the world be safe when any part of it contains filth.

It will be seen from the foregoing that all barbarous and semi-civilized nations are ignorant of the fundamental principles of medical science. Common humanity therefore, to say nothing of

Christian benevolence, should surely prompt the adoption of means whereby the mercenary and heartless pretensions of the priest physicians be exposed, and the sick and the suffering be cared for and comforted, and the cruelties inflicted be mitigated.

Again and again it will be found that the man who is indifferent to missions, as missions, is quick to admit his sympathy with medical missions. Their necessity is so undeniable, their peculiar functions so incontrovertible, that there is hardly anything that is easier in the whole realm of missionary advocacy than to generate a special interest in medical missions.

A good many persons who cannot see their way to support other forms of missionary effort are glad to give to medical work, and in this way may ultimately become interested in other branches.

ESPECIALLY VALUABLE IN MOHAMMEDAN LANDS

The words of Dr. John R. Mott are also significant in this connection, especially as regards medical work amongst the Moslems. Speaking in the Royal Albert Hall, London, in 1908, he said in allusion to the Turkish Empire: "The medical arm of the missionary service must be further strengthened. I believe that Moslem Turkey could almost be won by this one Christian method alone."

The remarkable work of Dr. Ashael Grant among the Mohammedans and Nestorians of Persia, where his life had no safeguard except the good will of fanatics among whom he lived alone, is instance of the success of a medical missionary in what is perhaps the most difficult of all mission fields. It was written that he "had twenty times more intercourse with the Mohammedans than the missionary who was sent out expressly to labor with them."

CONTRIBUTIONS TO MEDICAL SCIENCE

Even before the era of modern missions, the connection between missions and science was well recognized, for Robert Boyle, the philosopher and a founder of the Royal Society in 1660, laid it down as the especial object of that institution to propagate Christianity along with and through literature and science. He was also a founder of the first Protestant Society for the propagation of the Gospel. Leibnitz in planning the Berlin Academy, included the same idea in its scope, and thence it extended to other similar societies in Wittenberg, Vienna, and St. Petersburg.

In 1847, the great comparative anatomist, Richard Owen, for the first time gave a scientific description of the gorilla. It was based upon a skull sent from Africa by Dr. Savage, a missionary and professor. Owen named it after him (Troglodytes) or (Gorilla-Savagei). A year later Dr. Leighton had sent a skull to the Boston Society of Natural History and still later the complete skeleton of a gorilla now in the Academy of Natural Sciences of Philadelphia, was obtained from Dr. Nassua.

But the West as well as the East owes not a little to the medical missionary. Perhaps one of the most useful drugs in the medicine is quinine, and the world owes it to the Jesuit missionaries of South America. Before the chemists extracted its active principle, it was originally administered as the pulverized bark of the cinchone tree, and was popularly known as Jesuit's bark, while calabar bean, the kola nut, and the strophanthus, valuable modern remedies, we owe to Dr. Nassau, an African missionary. Much of our knowledge of cataract, lithotomy, elephantiasis, leprosy and many other tropical diseases, comes from medical missionaries since these disorders are either peculiar to the tropics or are very prevalent there.

The amount of scientific research by medical missionaries has been greatly limited, owing to the tremendous pressure of the numbers of sick calling for treatment. However, great contributions are certain to be made to our medical knowledge by the accurate reporting of the large series of cases passing through the hands of the physicians and the medical conditions in the East, also by the first hand study of Asiatic diseases. This scientific output will be greatly increased in volume as the number of medical men on the field is increased and as they are able to develop native assistants, thus giving them more time for this important work.

Scientific study of Asiatic conditions is now being thoroughly carried on by members of the Chinese Medical Association and medical men in other mission countries.

They have greatly promoted our knowledge of tropical diseases.

Dr. Kerr of the Canton Hospital has operated for stone in bladder probably more than any other surgeon. Medical missionaries have made many contributions to our knowledge of syphilis, tuberculosis, leprosy, diseases of eye, the skin, intestinal parasites, sleeping sickness, tropical ulcer, etc., etc.

A large amount of very important work has been done by missionaries in the way of translating and producing medical literature in various languages. In China a publication committee appointed by the Medical Missionary Association

raised about $3,000 specially for this purpose and already a number of large standard works such as Gray's Anatomy, Osler's Practice of Medicine, etc., have been translated into Chinese.

The Chinese Medical Association is active in calling meetings in the various branches of discussion of the medical and surgical problems and questions of administration, and for the comparison of experience. They have published tracts and pamphlets on sanitation, on the treatment of epidemic disease, and on the care of health and kindred subjects which have been widely distributed especially during the outbreaks of illness and they have lately compiled an English-Chinese medical dictionary containing 15,000 medical terms, and the names of diseases and various other medical and surgical subjects. This Association which represents a department of Christian service in which theological division is not felt, would extend the work of translation and the preparation of Chinese medical books only that it is difficult to set apart busy men for such work and to find the necessary funds. It is largely on this account that the missionaries have been unable to do much research work in the investigations of local illness and epidemics.

RECEPTION OF THE MEDICAL MISSIONARY

The official classes in mission fields, once the work is established, seldom fail to show their appreciation of the great hospital service rendered. The finely equipped hospital at Tientsin, established and so long maintained by his excellency Li Hung Chang, and many others which have been endowed by native officials, are proofs of the spirit of welcome on the part of many of the official classes to this medical missionary work.

Viceroy Tuang Fang states that the awakening of China will be traced in no small measure to the hands of missionaries. "For this service" says he, "you will find China not ungrateful."

The medical missionaries and the hospitals, according to Sir Chen Tung Chen, have undoubtedly contributed above all else to opening the way for the spread of Christian civilization. "The highest classes of people patronize these foreign hospitals."

"It receives the highest official recognition, and thus facilitates the employment of all other agencies. The foreign doctor is a persona grata, even in palaces and halls of state."—James S. Dennis.

Witness Dr. Dodd's return to Cesarea. "Three hours away from the city, a large cavalcade of twenty men and twenty-five women met him and his wife, using twenty horses and many arabas and wagons."—Medical Missionary, page 18.

Even the poorer classes often contribute generously to this work. In many instances wealthier natives have given munificently to hospitals and dispensaries, in some cases having built and maintained them at their own expense.

So thoroughly are the higher class Chinese coming to recognize the value of medical work that at some cities, such as Antau and Nanchang, they are offering to build hospitals for our church if we will supply the physicians.

At home the physician is much on the same level with his fellow citizens as regards influence. In the foreign lands, few are as highly esteemed and few have greater moral influence.

Men naturally care more for their bodies than for their souls, and in China they have a high, almost a superstitious regard for educated physicians.

"Dr. Peter Parker, the first medical missionary of the American board, had great difficulty in securing a building, and when it was ready no patients came the first day. On the second, a woman courageously trusted herself in the hands of the foreigner. Next day, a half dozen came, encouraged by her success, and soon the street was full. So anxious were they that they could secure his services, that even the women of the better class stayed in the street all night so as to secure an early admission. Long lines of sedan chairs almost choked up the narrow lane. Great men with their attendants waited their turn to see the foreign doctor. As many as a thousand were waiting at once, and there was danger that people would be injured by pressure. Sometimes blind people from a far-off village clubbed together to charter a boat to Canton, and then waited four or five days after their arrival there till there was a vacancy for new patients. One Chinese wheeled his blind old mother a thousand miles, nearly twice as far from here (Dayton, Ohio) to Philadelphia, in a wheelbarrow to consult one of my own students."—Dr. W. W. Keen.

DAILY WORK

The first year or two of the doctor on the foreign field, is spent in intensive study of the language and in assisting in some dispensary or hospital. He is then generally given a new work, the establishment of himself in a new field. He first starts a dispensary.

Once the doctor has started his medical work, and is seeing patients, there come to him requests that he would visit some who are too sick to leave their homes.

Itinerating work: By this is meant a tour amongst a series of villages or towns lying at a distance from the mission dispensary.

Dr. Hall, a surgeon in Allahabad had recently visited a village twenty-six miles from an English station and twelve miles from the nearest railroad station. Remaining there six days he opened a dispensary under a large mango tree. During these six days he saw 394 patients, performed 147 operations upon the eye, sixty-nine of which were for cataract. He returned home leaving a native assistant in charge of these cases.

Hospital Work—The late Dr. Roberts of Tinetsin wrote on one occasion: "The universal opinion of those in the work seems to be that the value of and the efficiency of their work is in direct proportion to the presence or absence of a hospital."

How does it most frequently evolve? The doctor, let it be supposed, has settled down at his station, established his dispensary work, paid visits to patients in their homes, and gone out on one or two itinerating tours. He has come into first hand acquaintance with the diseases he has to treat and the kind of sufferers he has to relieve. What, then, is the necessity that almost invariably compels his attention? It is the need for a mission hospital into which he can take the patients.

Until he shall have trained from among the natives his own assistants, he must act as dispenser, dresser and nurse; he must be his own consulting physician and surgeon, and himself be president, committee and officer of the local board of health, architect, master builder, medical staff, purveyor and general superintendent of his hospital and dispensary. He must be qualified to teach to others the principles of his profession, he must be prepared for all emergencies, not in one but in all departments of his professional work. Probably he will not be long in this field before he will be called upon to treat cases which will tax his skill and self-reliance to the utmost.

Dr. D. M. Thom, the famous medical missionary who died recently at Mardin, Turkey, in forty years treated four hundred thousand patients.

The number of patients seen in the year by medical missionaries the world over, exceeds four million.

FAMOUS MEDICAL MISSIONARIES

Among some of the most noted medical missionaries are Dr. John Scudder, the first to go from the U. S. He went to India in 1819, and labored there thirty-six years until his death and gave seven sons and two daughters to mission work in India.

Dr. Peter Parker, the first to go to China, is said to have opened up that country to modern science and civilization at the point of his lancet. He established the first foreign hospital in China at Canton in 1835.

Under the administration of Dr. John G. Kerr, it has one of the greatest institutions of its kind in the world. He also founded the first insane asylums in China. During thirty years of service this doctor has by himself or under his supervision, treated over 700,000 patients and performed some 40,000 operations, 1,300 of which were for cystic calculi. In addition to this he has translated thirty medical books into Chinese and, aided his assistant in training a hundred native doctors.

He also founded the first insane asylum. Reference has been made to Dr. Allen's saving the life of the son of the King of Korea, who was bleeding to death under the care of the native doctors. He was ultimately put in charge of a hospital built for him by the king and later was by the king sent as one of a Korean embassy to the United States Government at Washington.

It is an old but a little known story which relates that when in the year 1636 a princess in the family of the Great Mogul had been dreadfully burnt, a message was sent to seek the help of the English surgeon at Surat. Dr. Gabriel Broughton was sent, healed the princess, and in return, was asked by the emperor to state what he desired for himself. "Let my nation trade with your nation" was the reply and the establishment of the East India Company's power on the Cormadel coast was the result.

Dr. David Livingstone, the great African explorer and scientist and surgeon, was one of the world's great Christian statesman whose bones are interred in Westminister Abbey—that great sepulchre of England's most illustrious dead.

Dr. Wilfred Grenfell, sea captain, storekeeper, magistrate, preacher, surgeon, author and patron saint of Labrador.

Dr. James Curtis Hepburn, founder of modern medicine in Japan, planter of the seed from which the splendid triumph of the Japanese medical force during the Russo-Japanese war was the flower, decorated by the Japanese Emperor.

Dr. J. C. Berry, introducer of prison reform in Japan, founder of the first training school for nurses in that country.

Dr. Mary Fulton, founder of the David Gregg Hospital at Canton and the C. P. Turner Training School for Nurses, organized for the Hackett

College for women, a great force for the uplifting of woman in China.

Ashael Grant among the Mohammedans and Nestorians of Persia had twenty times more intercourse with the Mohammedans than the missionary sent expressly to labor with them.

Dr. Bradley worked so faithfully and effectively in a cholera epidemic in Siam that the king and queen erected there a hospital recently and asked Dr. Hays to take charge of it, paying him a salary of $7,000 a year, most of which he expended in promoting the work.

FINANCIAL SUPPORT—SALARIES

While the missionary doctor is not primarily interested in the financial aspect of his own career, the salaries for the most part are very low, and regard for the care of his wife and family might well make one hesitate before taking up the work.

Beds can be supported in the hospitals at Yemping, Kucheng, Nanking, Wuhu, Peking, Changli, Chingking, and Chentu, at from $25 to $150 a year.

In Africa conditions are much different. The natives are chiefly in a state of barbarism or semi-barbarism. They live in small villages. There are almost no large cities. Mission hospitals as in China or India are very few, but increasing. Most of the work is done without facilities both in the way of hospitals, equipment, or native helpers.

In 1914 the Rockefeller Foundation sent a commission to China to investigate the need for modern medicine and surgery and how best to meet the need. I quote a few conclusions from the report as follows:

1. That the Foundation should undertake medical work in China. In the opinion of the commission the need is greatly beyond any of their anticipations and the opportunities for progress in all lines are equally great.

2. That the Foundation so far as possible should co-operate with existing missionary institutions which have already done such good work in China.

3. That the medical instruction in which the Foundation is concerned should be on the highest practicable standard of requirement for admission to a medical school, the training of a middle school roughly equivalent to an American high school, supplemented by two years of pre-medical work devoted to instruction primarily in the English Chinese, physics, chemistry and biology.

4. That the teaching in medical schools in which the Foundation is concerned for the present and for some time to come should be in English as the main language.

A small hospital under the British at Aden and another under the Free Church of Scotland and the medical missions of the American-Dutch Reformed at Banrein, the physicians not numbering more than a half dozen for the whole land, furnish practically all the medical aid Arabia receives.

NUMBER DOCTORS NEEDED

In 1849, there were but forty-nine medical missionaries upon the field. At present there are according to a list lately published in the Medical Missionary, 1,000 medical missionaries under the various missions boards—American 538, British 473,—this being an increase of 153 in two years. A few more than 500 hospitals and over 1,000 dispensaries.

At home in America there are physicians within a stone's throw from every house, almost. There is a doctor in every 625 of the population, while in the foreign lands there is but one in every 1,000,000. At home, for every 1,000,000 of the population there are 1,500 physicians. In foreign lands there are but one to the same number. In other words, the supply of physicians at home is just 1,600 times as great as that of abroad.

Chicago alone has more hospital beds than there are for the use of the natives in the whole of India.

New York City alone has over ten thousand hospital beds, costing upward of a million dollars a year; more beds and more money than are used for and spent by all the medical missions that exist among the thousand millions of heathen and Mohammedan people.

For the year 1913, the number of medical practitioners in the British Isles is seen to be 32,600 which means roughly that there is one doctor to every 1,380 of the population.

Outside the mission hospitals and outside the treaty ports there are very few practitioners in China who have had any training at all in western medicine and almost none have had adequate training.

In point of population and lack of properly educated physicians, China probably presents the most needy and extensive of all the fields for the prosecution of medical science.

China alone could immediately fill the hands of 200,000 capable practitioners.

The United States has 160,000 physicians; supplied at the same ratio as China there would be only eighty. Bodies suffer and hearts ache in China even as here.

On the basis of England's supply, India could fill the hands of 190,000 physicians. China and her dependencies could use 260,000 more. These two countries combined could demand an army of 450,000 educated physicians to provide medical aid for their teeming multitudes and Chicago can boast of more physicians and medical workers than these two entire countries together. And what of Africa, where 100,000 physicians would scarcely be able to cope with indigenous diseases not to speak of the untold suffering from slavery, debauchery, and rapine. Then too, there is Siam, and other Indo-Chinese countries, Persia, Arabia, Turkey, which, together at the lowest estimate would furnish work for 100,000 more. Five thousand physicians will likely graduate from the American schools of medicine. In view of this fact, is any one likely to suffer for lack of medical aid if you go as a medical missionary? Surely America is in a position as no other country is, to supply the needs of the suffering countries of millions.

There are approximately one billion people in heathen and Mohammedan countries needing the modern scientific physician and surgeon. To furnish one for each 1,000 of the population requires one million.

QUALIFICATIONS

"The nature of medical work in China," say the Rockefeller commissioners, "is such that only men of the strongest personalities and of the highest professional training are of value. The man who goes to China needs a much broader training than his brother who remains at home, for he is called to face every conceivable kind of medical work, and usually he must meet it without consultation."

MEDICAL COLLEGES

Just as the aim of most of the mission boards is to educate and train the natives so that they will assume most of the task of evangelization, so likewise they are founding medical colleges that they can eventually furnish native doctors in sufficient numbers.

The question of medical education is rapidly coming to take the very first place in the counsels of medical missionary committees and associations.

The whole number of European medical missionaries, men and women, in China is about 450, together with some 100 European nurses. There are at present about 57 foreign doctors on the staffs of these schools, and about 500 students all told. No single method of medical schools can yet be regarded as thoroughly efficient. The nearest approach is the one at Peking with its fourteen doctors and ninety-five students.

It will be several decades before there can be anything like a sufficient number of properly trained native doctors. Most all the mission boards are needing at the present time from one to a dozen competent physicians and surgeons.

The Bulletin of the Student Volunteer Movement for January, 1917, makes a request for 188 doctors; thirty-six of whom must be women.

Sixty-one of these appointments are for hospitals already established or soon to be built. At least eleven of them are for college positions. Financial support is already guaranteed.

The countries are as follows: China, 72; Africa, 23; India, 14; Korea, 9; Burma, 5; Assam and the Philippines each 4; Japan, 3; Egypt, 2; Arabia, Ceylon, Borneo, Tripoli each 1.

APPEALS FROM MISSION BOARDS

"A doctor for Siu Lam, China. This city has a population of 400,000. Funds are on hand for the building of a hospital in this city."

"Not less than seven high-grade doctors. One for each of our hospitals in north China—support from the Rockefeller Foundation—each to be associated with a senior physician now in charge. Unparalleled opportunity. The Rockefeller board demands high qualifications, such as graduation from an "A" institution and a good internship, yet these posts also call for the most devoted missionary motive and spirit."

"A physician, married, for medical work in Taianfu, north China. Taianfu is in the western part of the Shantung Province, about forty miles east of the Yellow River. It is not far from the birthplace of Confucius, and lies at the foot of the sacred Taisnan. The hospital here ministers to about one of the most densely populated regions in the Chinese Empire, averaging 683 persons to the square mile. During the last year, the doctor at this hospital treated 11,764 patients."

"Five hospitals during the past year have been closed while physicians took the much needed furlough. New hospitals have been delayed in opening until a sufficient staff could be secured. The hospital at Foochow reports sufficient work for three doctors with one on staff now."

SPECIAL TEACHERS—SHANTUNG UNIVERSITY

The Shantung University with its 600 students and serving alone some fifty millions of people, needs in its four departments in addition to the fifteen foreign and twenty-two Chinese professors now upon its staff, the following men:

Anatomist.
Physiologist.
Pathologist; Bacteriologist.
Serologist.
Ear, Nose and Throat Specialist.
Gynecologist and Obstetrician.
Dermatologist and x-ray man.

MEDICAL WORKERS (MEN)

Physician needed to teach in medical school at St. John's University, Shanghai.

He would also serve as bacteriologist and pathologist in St. Luke's Hospital, Shanghai.

Two physicians for St. Luke's Hospital, Shanghai. Two physicians for General Hospital, Wuchang.

MEDICAL WORKERS (WOMEN)

Two women physicians are needed for St. Elizabeth's Hospital, Shanghai.

Two physicians are needed for women's department at the Church General Hospital, Wuchang.

AFRICA

A man is needed at Beira, in Portuguese territory, where a new station has been opened.

A physician of all-round qualifications can be offered a marvelous opportunity for pioneer service in this virgin field, the only physician for a million natives.

Physician for hospital at Tripoli.

Several medical men in Portuguese west—Africa and other sections of the field.

"In view of all the foregoing, I can imagine no other privilege so great and glorious in this world as that offered to the young and consecrated surgeon of going to some destitute region where he would soon become a center of light and comfort, a favorite, a man widely celebrated, and greatly beloved by the people and honored by the world.

"This appeal is one which is particularly directed to the highest type of young Christian manhood and womanhood. The magnitude of the work, the demands it makes for the best of brain and heart, the qualities of sound judgment and resourcefulness that it necessitates, the grasp of scientific detail and accurate knowledge that it requires, and the capacity of leadership which is pre-eminently the attribute for every successful medical missionary, all mean that there are wanted for this service trained and disciplined minds fitted by nature and by grace for work that is able and above the ordinary.

"The young men and women who have had the advantage of a sound and liberal education and who to that have added a training in medicine, and who have manifested powers that would mark them out for positions of responsibility if they remained in the work of the Home Church, they are the ones to whom the call and message of medical missions sounds most clearly today.

Said Mrs. Isabella Bird Bishop on the Exeter Hall Platform in London three years ago after a tour of the world's mission fields: "If there were time I could tell you of things which would make it scarcely possible for any one entering life without a fixed purpose to avoid going into training as a medical missionary."

But add to this the spiritual possibilities of your life and there is yet a more urgent reason why you should devote your life to the blessed ministry of healing the sick and preaching the gospel among those who still sit "in the darkness and in the region and shadow of death."

Said Ion Keith Falconer, a missionary to Arabia, "While vast continents are shrouded in utter darkness and hundreds of millions suffer the horrors of heathenism and Islam, the burden of proof lies with you to show that the circumstances in which God has placed you were meant by him to keep you out of the foreign field."

Going will secure to you the largest experience in the practice of your profession. As a physician you may develop them yourself as you never can at home. You may have more experience in a single month in India than the average practitioner has in a year, and more than many in five. The medical missionary is constantly thrown into and upon his own resources and must undertake finally difficult and important operations. This develops his skill as nothing else can. You may have the experiences of many medical missionaries whose privileges it is to treat thousands of cases and perform hundreds of operations each year.

You may occupy yourself a district covering hundreds of square miles. Thousands of patients wait to greet you, welcome your skill, and spread your fame among them over the whole country.

"If thou forbear to deliver them that are drawn unto death, and those that are ready to be slain—doth not he that pondereth the heart consider it? and he that keepeth the soul, doth not he know it? and shall not he render to every man according to his works?" Prov. 24:11:12.

KNIGHTS OF COLUMBUS TO SEND AN AMBULANCE UNIT TO FRANCE

It is reported that the Knights of Columbus are preparing to send an Ambulance Unit to France. Ten ambulances, two motor trucks and a touring car have been obtained, and members of the organization have volunteered their services to man the ambulances.

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THE TRAINING OF NURSES

The Modern Hospital has from time to time called attention to certain objectionable features in the training of nurses in hospitals. In the May number may be found an interesting paper by Dr. A. R. Warner of Lakeside Hospital, Cleveland, in which a conservative view is taken of the several fields of activity and of the possibilities of improvement in instruction. From our own point of view if nurse training is to become popular, and to attract the best class of young women, the educational features must be extended and the drudgery must be reduced. Many hospitals, especially the smaller ones, look upon the pupil nurse as a productive servant whose time is mostly taken with menial work and with the barest excuse of class room or laboratory instruction. The hours are long and the opportunities for recreation and enjoyment are small. It is not at all strange that young women prefer the office or store, and the educated young woman, teaching. The graduate nurse as such has no social status because her hospital training gives her no point of view more than that of an attendant or a waitress on sick people. If the pupil nurse could be relieved of much of her menial work and receive instruction on the scientific consideration of disease, on social science, sanitation, and allied subjects, by persons themselves instructed, nurse training would be more attractive to the more desirable women. Many of these hospitals have no libraries, no books or magazines to read except a few elementary textbooks which they do not understand and are too tired to read. The lectures are often given by poorly trained doctors who have had no experience in teaching, and the young woman struggles during the hour to keep awake, often with poor success, for she has probably entered the lecture room after a long day of hard menial work. And finally on the day of graduation she has in reality received no educational course of instruction; she is in fact but little better off than the so-called practical nurse. This all should be changed; her course should be educational with enough bedside instruction to fit her for the practical work of a nurse. The three years should represent an educational course and should qualify her to consider herself an educated person belonging to a profession.

MEDICAL OFFICERS OF THE BRITISH ARMY

The London Lancet discusses in a somewhat lengthy editorial the shortage of medical men in England. In a recent call for 250 additional medical officers, 234 were found in two days. This call led to a review of the medical situation in Great Britain. There are a few women practitioners but not enough to materially affect the situation. It has been suggested to limit the ministration of sick after the manner of economy of the cereal supply, but it has been objected that the effect on the future of the public would be more serious than a shortage of food. The inquiry has been made if some plan could be employed to lessen the supply of medical officers in the army.

It seems probable that a better organization of both civil and army surgeons could be arranged for. The previous disregard of the army medical service has led to a waste of material or at least to a want of economy in the use of it in the various adjustments. We note some of this in our own country. There appears often to be an uncertainty as to how or where the material should be used, an uncertainty which has often disgusted the newly commissioned medical officer and has to a degree disorganized his practice for weeks and months, and if the per cent. of medical men was as low as in England, the effect might be felt in civil life. There is no doubt a distinct loss in the economy of civil medical practice through a lack of co-operation. Medical men in civil life are not accustomed to economical division or distribution of service, and little attention has been given to combination methods so well known in the business world. In view of the possible shortage of civil medical

practitioners, it would be well if the local medical societies in our own country gave some thought to future possible contingencies.

PROFESSOR LANDOUZY

Dean of the Faculty of Medicine, Paris

With the death of Professor Landouzy in Paris, at the age of seventy-two years, on May 10, after a long illness, the Paris Faculty of Medicine has lost its senior and most distinguished member. Louis Theophile Joseph Landouzy was born at Rheims in 1845, the son and grandson of medical men. Beginning his studies in the place of his birth, he went to Paris in 1867 to complete them, becoming hospital resident in 1870, and steadily ascending the professional ladder until his appointment as physician to the Hospital Laennec in 1890. Three years after this he accepted the chair of therapeutics at the Faculty of Medicine in Paris, bringing with it the membership of the Academy of Medicine. In 1907 he was chosen by the Faculty to be its dean, and in 1912 he was elected a member of the Institute. His most recent honour was the award of a gold medal for his work on infectious diseases by the Ministry of the Interior.

THE PASSING OF A GREAT MAN—PROFESSOR THEODORE KOCHER

The Eminent Surgeon of Berne, Switzerland

On July 27 last the medical profession throughout the world suffered a great and irreparable loss in the death of Professor Dr. Theodore Kocher, the famous chief surgeon of the "Inselspital," Berne, Switzerland and professor at the medical faculty of the Berne University—to which posts he received a call by the Government of the Canton of Berne in April, 1872.

Professor Kocher's many pupils have ever admired him as the greatest living surgeon and on two occasions has the medical world in general also paid him this compliment. First in the year 1904 when the International Surgical Society was founded, the meeting of Surgeon Delegates elected Professor Kocher chairman of the first International Congress of Surgeons at Brussels. On the other occasion, in the year 1910, he was awarded the Noble Prize for his remarkable achievements in surgery.

His specialty was goitre and he has been generally known as an exceptionally successful surgeon for this complaint. This formerly most difficult operation has been improved and simplified by him and some of the foremost physicians are not reluctant to acknowledge that they are operating after Kocher's method.

The first successes brought him patients from all directions of the globe, and noble families, including the Imperial Russian Court, called him frequently to their aid. Numerous brilliant offers reached him from foreign countries, but he refused them all, in order to devote his science and activity to the university of his native town. In 1912 he celebrated the fortieth anniversary of his professorship in midst an assembly of medical celebrities who had especially come to Berne to do him homage on that day.

On the occasion of the surgical Congress of 1910, he surprised his audience—which consisted of over 1200 surgeons from various parts of Europe—when he casually mentioned that he was basing his facts upon some 4000 operations he had performed for goitre. And humanity is not only indebted to this talented man for the discoveries he made in this field, but also for the many lessons he drew from his experience and observations in other and still more complicated diseases.

Everybody is acquainted with the phenomenal effects of Röntgen's invention in cases of broken bones. Professor Kocher's experience and science enabled him to write on the treatment of fractures even before Röntgen and there was nothing to be altered or added in his treatise of this subject. Professor Kocher's technic has led to perfect success in stomach and intestinal surgery; and new methods which he introduced are now employed in cases of epilepsy. He also facilitated the diagnosis of injuries to the brain and spine and intestinal ruptures are operated after his directions.

Professor Kocher is therefore universally acclaimed as a man to whom the world is indebted for discoveries and progress in almost every section of surgery. He was a man who was never precipitate in his diagnosis of a case; he knew the value of careful and repeated observation and insisted upon absolute certainty in each individual case.

It consequently rarely happened that a case of illness which was brought to his attention could not be explained and his patients felt immediately that they were in the care of a man from whom they would receive the maximum of human help.

Professor Kocher regarded his profession as his very life and his holidays were invariably devoted to theoretical work. He remained a perpetual wonder to his assistants and his pupils who could not always realize how this man could find his life's satisfaction in constant hard work. He was not only an instructor in surgery, but he implanted into his students that sense of duty which sacrifices all to the cause of the patient. He refused in his clinic to distinguish between important and unimportant matters, for every detail held some importance for him and he never failed to impress this upon his pupils.

While many a man would have retired long ago, Professor Kocher remained active to the very last. At the age of seventy-six, shortly before he died, he lectured and operated with youthful vigor and those who knew him had to admit that he displayed

the same unbounding energy at the close of his career as he did when he started his work in the Swiss capital. Professor Kocher kept not only pace with the progress of science and time, but he was even ahead.

Switzerland mourns him as one of her most brilliant sons and the medical profession in general and many indiviudals in foreign lands who have received help from this great, great surgeon will pay a grateful tribute to his memory.

Marie Widmer.

HONORARY DEGREES TO PHYSICIANS

At the commencements of the various American universities in June, several honorary degrees were conferred upon physicians as follows: At Yale the degree of ScD. was conferred on Dr. Theobald Smith, director of the department of animal pathology of the Rockefeller Institute. Dr. Smith and Dr. Charles H. Mayo, retiring president of the American Medical Association, also received the same degree from Princeton. At Bowdoin the honorary doctorate in science was conferred on Dr. Fred H. Albee of New York, who has recently returned from service at a base hospital in France.

FREE SERVICE TO NEEDY FAMILIES OF MEN IN MILITARY SERVICE

Lieutenant Colonel Jacob Frank, Surgeon-General of Illinois, has inaugurated a movement in Chicago which may well be considered by the profession everywhere and without conveying the idea of charity. The profession over the country should regard it a cheerful duty to furnish medical services to the families of soldiers whose incomes warrant it. Dr. Frank not only includes services of physicians and dentists, but druggists, nurses and hospitals as far as possible. We feel quite sure every right minded physician will agrce to this.

BOOK REVIEWS

POLIOMYELITIS IN ALL ITS ASPECTS

By John Ruhral, M.D., Professor of Pediatrics in the University of Maryland Medical School and the College of Physicians and Surgeons; Consulting Pediatrist to the Bayview Hospital, etc.; and Erwin E. Mayer, M.D., First Lieutenant in the Medical Officers Reserve Corps, United States Army, etc., Illustrated With 118 Engravings and Two Plates. Lea & Febiger, Philadelphia and New York, 1917. Price $3.25.

Never in the history of medicine has there been a greater demand for full and accurate information on any disease than at the present time on poliomyelitis. The disease is so serious in its results and so widespread that a book setting forth the latest knowledge on this subject, will be welcome to the profession. The authors in the preface state that in the preparation of this volume they have "endeavored to collect the various facts concerning the disease as far as they are known at the present time." Again it is stated: "There is at present no adequate account of the disease in one volume, although there are many excellent monographs featuring one or more phases of the subject." The three first chapters present the history and pathology of the disease. Following is a chapter on the nature of the virus. Twenty pages are devoted to the epidemiology of the disease, and twenty additional to synonyms and classification.

Two chapters are given to special features and symptoms, and to paralysis.

In chapter ten the difficulty of diagnosis is set forth and the possible errors pointed out.

Under the head of Prognosis, tables of comparative mortality are given in different countries and different epidemics varying from 10 to 25 per cent.

In regard to percentage of recovery of function varies greatly in different epidemics and to efficiency of treatment. In four hospitals under the New York Health Department, in which 3441 were treated, 716 died or 16 per cent. In 1223 cases there was no visible paralysis on discharge, or 32.6 per cent. of total recoveries, and there were 2256 cases with visible paralysis, or 67.4 per cent.

Chapter 12 is given to Medical Treatment and Chapter 13 to Orthopedic Treatment. Under the head of Serum Treatment, the recent work of Rosenow is not included. Apparently the authors at the writing of this book, were not acquainted with Rosenow's experiments. The general practitioner whose time and opportunities will not permit a consultation of the vast amount of literature of poliomyelitis, will find this book exceedingly helpful.

THE MEDICAL CLINICS OF NORTH AMERICA

Volume I, Number 1, July, 1917. Johns Hopkins Number; 193 Pages, 14 Illustrations. W. B. Saunders Company. Published Bi-Monthly. Price $10.00 Per Year.

We noted in a former review that the Chicago Medical Clinics were broadened in scope and to be known as the Medical Clinics of North America. In this number we find the names of six Johns Hopkins professors as contributors. The first, Prof. Theodore Janeway presents three clinics—Hodgkins Disease, Postural Albuminuria and Diabetes Associated with Disturbance of the External Secretions; Prof. Lewellys F. Barker, Meningitis of Unknown Etiology; Two Cases of Fibrillation of Muscular Tissue; A Case of Muscular Atrophy. In addition, Professors H. O. Mosenthal, T. B. Futcher, Louis Hamman, and Thomas R. Brown present clinics of equal interest.

The clinics are presented in a familiar way so that they can be easily followed, are of great practical

value and sufficiently extended to give a clear picture of the disease itself.

The clinic by Dr. Hamman on Hypertension is of marked interest and presents features which will be helpful to the general practitioner in every day work; also the clinic by Dr. Futcher on Combined Scleroderma, Raynaud's Disease and Chronic Arthritis.

A HANDBOOK OF PRACTICAL TREATMENT BY MANY WRITERS

Edited by John H. Musser, Jr., and Thomas C. Kelly. Volume IV, 1917. W. B. Saunders Company.

Since the appearance in 1911 and 1912 of the first three volumes of this excellent hand book there has been surprisingly little advance in therapy. Nevertheless the editors felt that little justified a revision of the original articles. Among the many excellent articles one must mention specially "The Specific Therapy of Pneumococcus Infection," by A. R. Dochez, "Diseases of the Cardio-vascular System" by Allbutt, "Tracheal and Bronchial Obstruction" by Jackson and "Treatment of Cerebro Spinal Syphilis" by Swift.

There is generally speaking a scientific conservatism about all the articles; rarely an author ventures into the realm of therapeutic romance.

The desk index is a very complete one and like all of its kind most essential to the usefulness of the text. C. P. Howard.

THE SURGICAL CLINICS OF CHICAGO

Chicago, Volume I, Number 3, With 70 Illustrations. Published Bi-Monthly. W. B. Saunders Company. Price (Six Numbers Per Year) $10.00.

This number contains twenty-one clinics by many well known surgeons of Chicago. Dr. A. D. Bevan presents the first series which includes Pulsion Diverticulum of the Esophagus; Removal of Murphy Button From Stomach Two and One-Half Years After Gastro-Enterostomy for Duodenal Ulcer; Hernia of the Diaphragm; Carcinoma of the Jejunum. The second clinic is by Dr. A. J. Ochsner. Dr. James T. Case presents a Comparison of the Operative and Radiotherapeutic Treatment of Uterine Myomas.

The above mentioned clinics are a fair illustration of the contents of this valuable number.

INTERNATIONAL CLINICS

A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles. By Leading Members of the Medical Profession Throughout the World. Edited by H. R. M. Landis, M.D., Philadelphia. Published by J. R. Lippincott Company, Philadelphia and London.

We have before us Volume II, Twenty-seventh Series, 1917, of this valuable publication.

The first paper is on Gout and Infectious Arthritis, by Prof. Henry A. Christian of Harvard. This paper will appeal to the general practitioner on account of the clear and concise manner in which the main facts of this important disease are presented; it is rather clinical than didactic, and presents a basis for a rational treatment.

The second paper by Dr. Lewellys F. Barker of Johns Hopkins, is on Typhoid Fever and its Complications.

There are numerous contributions of equal value which we have not space to note. We may, however, mention a valuable contribution by Prof. Thomas McCrea of Jefferson, on Jaundice with Enlarged Liver, and one by Prof. Walsh of Fordham University on Constipation and Natural Food. We should also note a contribution on Treatment by Intravenous Medication by Dr. Cary Eggleston from the Laboratory of Pharmacology, Cornell University Medical College.

Dr. S. Anderson of Louisville, presents a historical and clinical contribution on Primary Ovarian Gestation.

Besides the more formal contributions, there are several college clinics presented.

THE ELEMENTS OF THE SCIENCE OF NUTRITION

By Graham Lusk, Ph.D., Sc.D., F.R.S. (Edin.), Professor of Physiology at Cornell Medical School, New York. Third Edition, Reset. Octavo of 641 Pages, Illustrated. W. B. Saunders Company, 1917. Cloth, $4.50 Net.

The somewhat extensive introductory chapter presents a review of the most important theories on nutrition and the manner in which conclusions were reached. The observation may be extended to include chapter three on Starvation and chapter four on Regulation of Temperature.

Three chapters are devoted to the Influence of Protein Food; part first, Nitrogenous Equilibrium; part second, Intermediary Metabolism; part third, Respiratory Metabolism. This section of the book is based, of course, on laboratory and experimental work, and constitutes the foundation upon which medical questions rest, touching protein metabolism, questions which must always be considered in an important class of diseases.

Chapter eight relates to the Influence of the Ingestion of Fat. The contention under this chapter is expressed under the statement that where there is much fat present, little protein is consumed; where there is little fat, much protein is buried, and where there is no fat, protein alone yields the energy necessary for life. Then follows Intermediary Metabolism under the Influence of the Ingestion of Carbohydrates, which produces about two-thirds of the energy of the human organism. This and the

following chapter on The Influence of Mechanical Work on Metabolism, contains the results of much laboratory work and calculation.

The last half of the book deals with A Normal Diet and the Nutritive Value of Materials Used as Foods, the food requirements during growth, metabolism in different forms of disease which have a relation to diet as the important factor in treatment.

This book is a scientific discussion of questions relating to nutrition, and forms a real basis for the physician's work.

HANDBOOK OF GYNECOLOGY

For Students and Practitioners. By Henry Foster Lewis, A.B., M.D., Professor of Obstetrics and Gynecology, Loyola University School of Medicine, Chicago; Chief of Obstetric Staff of Cook County Hospital; and Alfred de Roulet, B.Sc., M.S., M.D., Professor of Gynecology in Loyola University School of Medicine, Chicago. With One Hundred and Seventy-Seven Illustrations. C. V. Mosby Company, St. Louis, 1917. Price $4.00.

This book is based on the experience of the authors in teaching. Being convinced that the principles of treatment of the more common diseases of women could be presented in a clear and concise manner in a book of moderate size, have prepared this work. The book is particularly adapted to the use of students of medicine. It can claim more; the general practitioner often finds it desirable to refer to authority touching some subject he has in mind, can readily turn to helpful information in a book which does not claim to present more than the main facts. The special student in Gynecology, will find in the larger works the more exhaustive discussions and the technic of important operations, but for every-day helpfulness, this book is particularly recommended.

PHYSICAL EXERCISES FOR INVALIDS AND CONVALESCENTS

By Edward H. Ochsner, B.S., M.D., F.A. C.S., President Illinois State Charities Commission; Attending Surgeon, Augustana Hospital, Chicago, Illustrated. C. V. Mosby Company, St. Louis, Mo., 1917.

In this book Dr. Ochsner calls attention to the need of exercise by all persons engaged in sedentary occupations and to patients who are convalescent from a surgical operation or sickness. He approves of various sports for those who enjoy them, but they do not meet the needs of all for one reason or another. Dr. Ochsner has devised certain exercises which can easily be employed without apparatus and without expense and will serve the purpose of convalescents especially. Forty different exercises are described and illustrated which can be carried out systematically to the great advantage of the persons who need them.

UNIVERSITY OF IOWA MONOGRAPHS STUDIES IN MEDICINE

Collected Studies and Reports. Volume I, No. 10, September, 1917. Published by the University.

The number before us contains thirteen papers prepared by members of the University faculty on Internal Medicine. These papers represent original work and observations and are valuable in that they are contributions to knowledge. In a recent editorial we called attention to the report of the Committee on Medical Research Work which discussed several points of view. To us it seemed that by far the greater part of such work should be conducted in the laboratories of University Medical Schools with as far as possible student assistants, with a two-fold purpose; the utilization of university equipment and the training of students. It is quite possible that special foundations may carry on a particular line of work to better advantage.

The University of Iowa for nearly a year has been producing research work of a creditable character which should attract the earnest attention of the profession.

PUBLIC HEALTH REPORTS ISSUED WEEKLY BY THE UNITED STATES PUBLIC HEALTH SERVICE

Containing Information of the Current Prevalence of Disease. The Occurrence of Epidemics Numbers 28, 29, 30, 31, 32 are before us and are Useful Sources of Information.

EVERGREEN TREES FOR IOWA

Agricultural Experiment Station, Iowa State College of Agriculture and Mechanic Arts-Forestry Section.

Doctors who have lawns and an eye to beauty will find much of interest in this publication.

MAJOR KNOTT TO LEAVE FOR NEW POST

Following his appointment as director of field hospitals of the Thirty-fourth Division of the United States army, Major Van Buren Knott, commanding officer of Iowa Field Hospital No. 2, will depart this evening for Deming, N. M., according to orders received by the major last night from Surgeon General Gorgas. What his duties will be upon arrival he was not prepared to state, although it is presumed that they will consist principally of organizing the work which is being conducted at Deming.

The departure of Major Knott will leave Lieut. J. H. Kerr temporarily in command of the hospital unit at Camp Eaton. While no successor has as yet been appointed it is expected that one of the company officers will receive the post. The appointment of Major Knott which was received a week ago, places him in command of four hospital units.—Sioux City Journal, Sept. 20, 1917.

SOCIETY PROCEEDINGS

A called meeting for the reorganization of the Humboldt County Medical Society was held at Humboldt, August 31. The members present were: Drs. H. C. Dean, Asaph Arent, W. M. Shipley and S. J. Townsend. Dr. W. W. Beam, of Rolfe, Dr. M. J. Kenefick of Algona, and Dr. Jones of Ft. Dodge, were guests of the society.

Dr. Jones read a very interesting and practical paper on The Laboratory and the General Practitioner. The discussion of the paper was freely entered into by the physicians present.

The officers elected at this meeting were: S. J. Townsend, Gilmore City, president; W. M. Shipley, Ottosen, vice-president; Asaph Arent, Humboldt, secretary-treasurer; Asaph Arent, W. M. Shipley and H. C. Dean, censors. The next meeting of the society will be held in October.

The Jackson County Medical Society met in regular session August 10 at Maquoketa under the presidency of Dr. Wm. Lowder of Maquoketa. Dr. George M. Johnson of Marshalltown, secretary of the Marshall County Medical Society and Dr. D. S. Fairchild of Clinton, were guests on this occasion. Dr. Fairchild read a paper on Goiter. Papers were also read by Drs. J. O. Ristine and L. L. Riggs of Maquoketa; and Dr. Wm. Lowder of Maquoketa presented a case report.

A large representation of the membership was in attendance.

The Wapello County Medical Society resumed its work for the year 1917-1918, September 5. The first two meetings for the month of September were occupied by a Symposium on Gastric and Duodenal Ulcer.

Dr. E. T. Edgerly, in the first paper, presented in a very interesting and instructive manner the Etiology, Pathology and Symptomatology of Gastric and Duodenal Ulcer. The second paper was read by Dr. H. W. Vinson who considered the Diagnoses, Complications and Symptoms of Gastric and Duodenal Ulcers.

At the meeting held September 18, the symposium was completed when Dr. S. A. Spilman read an interesting paper on the Surgical Treatment of this type of ulcers.

A large attendance was present at both meetings and a general discussion followed the presentation of all of the papers. H. W. V.

The Wright county clinic on tuberculosis, held at Clarion, Friday, September 21, was successful beyond all expectations. Being a new idea, it was feared the county tuberculosis clinic might not be available for a rural neighborhood with limited clinical material; however the department on tuberculosis of the Board of Control had faith that a sufficient number of patients could be gathered for an interesting clinic. This faith was justified. Fifteen persons presented themselves for examination. Some of them were patients baffling the skill of the attending physician; others came voluntarily; and several were sent by physicians who could not be in attendance.

Dr. H. V. Scarborough, superintendent of the state sanatorium, was the director of the clinic, and Dr. J. W. Kime of Fort Dodge, assisted.

Selective examinations began in the morning at ten o'clock. The demonstration, however, took place at three-thirty in the afternoon, at which time all physicians participated. The cases selected for the demonstration presented certain deviations which were fully brought out by Dr. Scarborough.

The clinic was voted by all as one of the most interesting in the annals of Wright County Medical Society and thanks were extended to the Department of Tuberculosis of the Board of Control, Dr. H. V. Scarborough and Dr. J. W. Kime. Dr. A. E. Kepford, state lecturer, was commended on the splendid idea which has developed out of his years of experience.

The day closed with a banquet at the Moore Hotel.

The physicians present at the clinic were: E. A. Lodge, Parsons, Kansas, and C. L. Olson, Pine Island, Minnesota, guests; A. H. McCreight, A. L. Belt, S. D. Jones, C. J. Saunders, J. F. Studebaker, J. W. Kime, and W. W. Bowen, Ft. Dodge; Geo. H. Martin, C. H. Morse, T. J. O'Toole, and L. D. McNaughton, Eagle Grove; W. N. Gordon, Rowan; J. C. Powers, Walter K. Long, and C. F. Osborne, Hampton; Wm. Potter, Galt; G. E. Schnug, Dows; E. E. Best, J. H. Sams, and Geo. Brown, Clarion.

G. E. Schnug, Secy.

At a recent meeting of the Wright County Medical Society the following resolutions relative to caring for the practice of physicians who enter the service of the government, were adopted:

Resolved: "That the Wright County Medical Society recognizes the patriotism of those members of the medical profession resident in Wright county, who volunteer for the service of the United States Government, and in appreciation of this we recommend that should these members of the profession be called into service, the doctors who shall attend their patients should turn over one-third of the fees collected from such patients to the physician in active service, or to his family.

The Polk County Medical Society held its first regular fall meeting at the Savery, September 25.

A very interesting program on the subject of Goitre had been prepared by the officers of the society, and in response to the announcement of the program, a large attendance was present.

Dr. Daniel J. Glomset gave a very able presentation of the Anatomy, Physiology, Chemistry and Pathology of the Thyroid Gland. In speaking of the malignancy of goitre, the speaker called attention to the fact that while carcinoma of the gland had heretofore been considered as a rare finding, more recent investigation by competent pathologists

tended to show that primary carcinoma was not as rare as had appeared heretofore.

The Medical Treatment of Goitre was presented by Dr. Granville N. Ryan. The essayist particularly called attention to the fact that rest was a very necessary and essential feature in endeavoring to successfully treat goitre cases presenting the symptoms of hyperthyroidism. It was also made manifest by the essayist, and brought out in the discussion by others, that it was important to have a clear cut idea as to the type of goitre in order that proper treatment be instituted. Particularly interesting were the remarks of Dr. Eli Grimes who stated, in any case in which there was suspicion of hyperthyroidism existing the patient should be put at absolute rest and a rectal temperature be taken every few hours. In case the temperature failed to show a continuous rise of a degree or more, the case should not be classified as one of hyperthyroidism.

The consideration of the Surgery of Goitre was presented by Dr. O. J. Fay who also referred to that fact that primary carcinoma of the thyroid was not an unusual finding as evidenced by the recent work of the laboratories of the Mayo Foundation.

A very free and animated discussion followed the Symposium and was entered into by the various members present, and upon the whole the program was a decided success. Several of the medical officers stationed at Camp Dodge were present.

At this meeting resolutions on the death of Dr. N. C. Schiltz were passed.

Whereas: Death had entered the ranks of the Polk County Medical Society and removed from our midst Dr. N. C. Schiltz.

Be it Therefore Resolved: That we feel in his death, the society and the profession have lost a true friend and brother in the fullest meaning of the word.

Be it Further Resolved: That the Polk County Medical Society extend to the bereaved family and friends our sincere sympathy in their loss; and that a copy of these resolutions appear in the minutes of the society, and a copy sent to the family.

(Signed) D. F. Crowley,
F. E. V. Shore,
T. F. Duhigg.

The annual meeting of the Botna Valley Medical Society was held at Avoca, September 6.

Following the business session an excellent scientific program was given by members of the society and guests.

Dr. B. D. Atchley, of Shelby, gave a brief review of the Etiology of Diarrhœa, emphasizing the importance of feeding especially of fats and sugars; milk dilutions and sterilization in the feeding of infants; also citing inanition, fever and acidosis,—in all a very able paper.

A very masterly and practical paper was given by Dr. Palmer Findley of Omaha, in which a strong plea was made for less vaginal and more rectal examinations in obstetrical diagnosis.

Dr. A. E. Stokes, also of Omaha, gave a careful review of his extensive experience in local anesthesia, touching on the many details which he has worked out in the use of local anesthetics. Various Inflammatory Conditions of the Eye: Causes, Prognosis and Prevention, was the subject considered in the paper read by Dr. James M. Patton of Omaha.

In a paper on Blood Transfusion, Dr. C. H. Newell of Council Bluffs, expressed the opinion that many lives had been saved by the timely transfusion of blood. In the past the greatest difficulty was experienced in the complicated technique which has now been simplified.

In a paper on Carpal Fractures and Their Significance, Dr. A. Weaver of Cumberland, gave a review of the subject. The discussion following was opened by Dr. A. P. Condon of Omaha.

Under sundry subjects, a paper was read on Rat Bite Poison with a clinical history of a case.

A case of extreme hydrocephalus in an infant seventeen months old, was presented by Dr. D. F. Emmert of Avoca. The child had been tapped several times without apparent improvement.

The annual election of officers, resulted as follows: President, J. F. Crosby, Stuart; vice-president, C. L. Campbell, Atlantic and secretary treasurer, A. Weaver of Cumberland.

BULLET WOUNDS IN MODERN WAR

The Polk County Medical Society was fortunate to have as its guest at a special meeting, September 15, Colonel Louis A. LaGarde of the Medical Corps of the United States Army.

Dr. LaGarde gave a very interesting address on Bullet Wounds in Wodern War, profusely illustrated with lantern slides.

Through forty-three years of service, Colonel LaGarde has seen a marked evolution in the weapons of warfare. As the chairman of the board which introduced the narrow bore rifle into the army, and later the automatic pistol, he has had an important part in the development of this branch of the army service.

By his researches in the laboratory of Professor Welch of Johns Hopkins, he demonstrated how a bullet could carry germs like the anthrax and tetanus bacillus without being destroyed by the subsequent explosion of the bullet.

Dr. LaGarde portrayed in a vivid manner the wounds produced by the different bullets from the minie ball used in the civil war to the steel jacket bullets now used in the small bore rifle of the Krag-Jorgensen type; then the more destructive wounds produced by the different types of shrapnel, and finally the wounds from the high explosive shells which are principally used in the present war. It was interesting to note that the type of bullet used formerly was much more humane in its effect than the projectile of more recent warfare.

In referring to the so-called dum-dum bullet, Col. LaGarde stated that one-third of all bullets in their

course strike some other object before they are finally stopped. When the end of the bullet has been notched, as in the case with dum-dum bullets, the bullet explodes prematurely, hence while individuals may use this type of bullet, no government will be so unwise as to adopt it because in a general way, it is much less effective.

He referred to the necessity in all shell wounds to remove every fragment, and the great advantage of using the Carrel-Dakin solution in all dressings.

Colonel LaGarde referred briefly to his observations of medical officers in the different training camps and paid a high compliment to their patriotism and ready adaptability to their new duties.

The meeting was attended by a large number of medical reserve officers now on duty at Fort Des Moines and Camp Dodge. It was of special interest to the essayist to have present four members of the regular medical corps: Majors Bingham, Craft, Fronk and Maddox, old students of Colonel LaGarde while he was president of the Army Medical School in Washington.

Colonel LaGarde delivered a lecture on Military Surgery to the Medical Officers Training Camp at Fort Des Moines, he having previously in his tour given a similar course of lectures at the training camps at Forts Oglethorpe, Benjamin Harrison and Riley.

He also visited the cantonment at Camp Dodge and inspected the hospital now in process of construction.

During his stay in the city, Colonel LaGarde was the guest of Dr. Walter L. Bierring.

EXPENSES CONNECTED WITH COMMISSIONS IN RESERVE CORPS

A bulletin received at the Journal office from Robert E. Noble, Lieutenant Colonel, Medical Corps, U. S. Army, is to the effect that the War Department by the direction of the Surgeon General is anxious to bring to the attention of all candidates applying for commissions in the reserve corps the various items of expense in connection with the commissions. As numerous requests have been received at this office from time to time in regard to some of the matters contained in the bulletin, we publish the following in its entirety as received from Lieutenant Colonel Noble:

"One common error is that the field outfit costs not less than $300. An officer of the reserve may easily spend this amount of money upon his outfit should he so desire, but it is entirely an unnecessary expenditure and an extravagance. Most officers of the army buy their service uniforms from the quartermaster corps. The prices July 1, 1916, were as follows: Coat, cotton, olive drab, $1.33; woolen, olive drab, $3.95; shoes, russet, $2.81; overcoat, olive drab, $9.04; trousers, cotton, olive drab, $1.19; woolen, olive drab, $2.62; cot, folding, $2.06. Each officer should also provide himself with a folding chair, or table, the price of which is about the same as that of a cot; also a lantern and a few other articles. Buckets, canvas, for officers, 86c; basins, canvas, 36c. Owing to the recent increase in prices, raw material and cost of labor, these articles will be from two to two and a half times the prices quoted above.

"Blankets (each officer should supply himself with three) may be purchased in the open market at approximately $6 apiece. Bedding rolls cannot now be purchased from the quartermaster's department, but should be purchased in open market for about $10. Puttees, about $10 per pair.

"It is an unnecessary extravagance for officers to purchase field uniforms at a price of $40, $50 or more.

"Mess expenses. In the field officers as a rule mess with their organizations, the cost of which will be approximately $15 per month. Additional expenses will depend upon the personal equation of the officer.

"The pay of the various grades is as follows: Lieutenant, $2,000; captain, $2,400; major, $3,000, plus ten per cent. for foreign service.

"Fifty dollars ($50) per month for an officer in the field would be a very liberal allowance for all expenses. It is understood that a number of medical men refuse to apply for commission in the reserve corps on the grounds that the mess dues and other necessary expenses require the full salary of a first lieutenant. Such belief is absolutely incorrect. The expenses are as indicated above, and there is no reason why an officer in the field should not save the greater portion of his pay. In cantonments and camps in the United States the expenses would possibly be slightly higher, but in no case should they prevent an officer from saving the major portion of his pay should be so desire."

Supplement to the list of Iowa physicians who have been recommended by the Surgeon-General for commissions in the Medical Officers Reserve Corps.

Chester Harvey Johnson, 1st. Lieut., Cherokee.
Abraham George Fleischman, 1st. Lieut., Des Moines
Harold Linhoff Brereton, 1st. Lieut., Emmetsburg
Loran Marshall Martin, 1st. Lieut., Fort Dodge
Mark Frederick Boyd, 1st. Lieut., Iowa City
Arthur Lewis Druet, 1st. Lieut., Larchwood
Elmer Andrew Carberry, 1st. Lieut., Maynard
Grant Augustine, Capt., Minden
Charles Frank Davis, Jr., 1st. Lieut., Mt. Pleasant
Walter A. Sternberg, 1st. Lieut., Mt. Pleasant
Charles Everett Moore, 1st. Lieut., Newton
Otto James Blessin, 1st. Lieut., Postville
Edgar Allen Stewart, 1st. Lieut., Salem
Carl Kail, 1st. Lieut., Stratford
Edwin Edward Wuttke, 1st. Lieut., Sumner
Floyd Henry Weidlein, 1st. Lieut., Wellman

BIRTHS

Dr. and Mrs. E. B. Winnett of Des Moines, September 22, a son.

Dr. and Mrs. T. A. Moran of Melrose, September 19, a son.

MEDICAL NEWS

Capt. L. L. Henninger of Council Bluffs, has been ordered to Camp Dodge for duty in the division of ophthalmology, section of surgery.

Lieut. R. F. Throckmorton of Derby, has reported for duty at Camp Dodge.

Lieut. E. J. Lambert of Ottumwa, who has been at the M. O. T. C. at Fort Oglethorpe, has been ordered to Camp Grant, Ill., for duty in the ophthalmologic section of surgery.

Capts. Alvah Negus of Keswick and W. S. Norton of Muscatine, are at Ft. Riley for training in the medical reserve corps.

Lieut. J. A. White of Olin, has been ordered to Ft. Oglethorpe for training.

Capt. Guthrie McConnell of Waterloo, has been ordered to Washington.

Capt. G. W. Yavorsky of Belle Plaine, has been ordered to the M. O. T. C. at Ft. Benjamin Harrison.

Dr. E. T. Edgerly of Ottumwa, has reported at Camp Dodge for duty.

Lieut. E. W. Bookhart of Breda is at Ft. Benjamin Harrison for training.

Lieut. Prentiss B. Cleaves of Cherokee, is in the M. O. T. C. at Fort Riley.

Dr. James Taggart Priestley, of Des Moines, who with his wife and grandsons left the latter part of June for a trip through Honolulu, Philippines, China and Japan, has returned after a three months' absence.

HOSPITAL NOTES

On September 5, the new John McDonald Hospital just completed at Monticello was informally opened to visitors. This hospital, modern in every feature with a capacity of thirty-five beds, comes as a bequest to Jones county from the estate of the late John McDonald of Center Junction, who bequeathed the residue of his estate to be used in caring for the poor and afflicted of his county in such a manner deemed advisable by the trustees of the estate, the directors of the Monticello State Bank of whom the donor was one at the time of his death at the age of ninety years. This hospital was erected at a cost of $100,000 including grounds and equipment, the balance of the bequest is placed in an endowment fund for the hospital. A portion of the funds for the equipment was generously provided by many of the citizens and fraternal organizations of Monticello. The hospital is open to all regardless of financial standing.

The contract for the erection of the Iowa Children's hospital at Iowa City, for which the last legislature made an appropriation of $150,000, has been let to the Theodore Stark Company of Cedar Rapids for $98,675. The building, which is to be a brick structure, will be erected on a site recently purchased, across the river from the old capitol.

A CORRECTION

On account of a typographical error in the list of of the Iowa physicians who had been recommended for commissions in the medical reserve corps published in the September issue of the Journal, the name of Capt. Mark Clyde Jones, of Boone, appeared as Capt. Mary Clyde Jones. As no woman physician is now eligible to the reserve corps, we correct the error with apologies to Capt. Jones.

Doctor, would you like to receive your Journal while you are stationed at the Medical Officers Training Camp? If so, please send us your complete address, and the Journal will be sent.

The attention of our Journal readers is called to the through Pullman service from Kansas City and Des Moines to Rochester, Minn., given by the Chicago and Great Western Railway. The announcement of this service which is the only through sleeper service to Rochester out of Des Moines, appears in the advertising section.

WITH OUR ADVERTISERS

WORK WITH HOOVER AND SERVE OAT FOODS

"Wheatless Meal" a Patriotic Duty—Oats High in Energy Value and Low in Price

To sustain our Allies and our own army abroad, it is necessary for this country to ship to Europe 200,000,000 bushels of wheat the coming year, in place of a normal shipment of 80,000,000 bushels. That is why Herbert Hoover says we must eliminate waste of bread and must have one "Wheatless meal" each day. It is impossible to view this matter as other than a patriotic duty.

An excellent food to consider as a flavory, nutritious, and easily prepared substitute for bread is oats, either in the form of oatmeal or oatmeal biscuits. As a food that imparts vim, energy and endurance, oats have long been recognized as supreme. And in the form in which they can in these days be procured for table use, they excel nearly every other grain food in flavor and ease of preparation.

Again, oats have advanced little in price, whereas nearly all other foods have soared. Prices on Quaker Oats—the product of the Quaker Oats Company of Chicago—for example, have advanced, on the smaller package only from 10 cents to 12 cents, and on the large, only from 25 cents to 30 cents. Most

(Continued on Adv. Page xvii)

WITH OUR ADVERTISERS

(Continued from Page 402)

other foods, for the same nutrition cost from twice to ten times as much. Even so simple a diet as bread and milk, for the same nutrition, today costs twice as much as oatmeal. The average mixed diet costs four times as much.

Per unit of nutrition, bacon and eggs cost five times as much as oatmeal; steak and potatoes cost five times as much, chicken costs six times as much, the average mixed diet four times as much.

DICHLORAMINE-T

A new antiseptic which is attracting much attention and which has recently been introduced by Dr. H. D. Dakin of the Herter Laboratory, New York, is Toluene-para-sulphondichloramine, or, as it is commonly known, Dichloramine-T. This antiseptic is used in oil solution, either as a spray or as a direct application.

The Dichloramine-T is dissolved in a Chlorinated Eucalyptol solution, then diluted to proper strength (from 2 to 7½ per cent.) with Chlorinated Paraffin Oil.

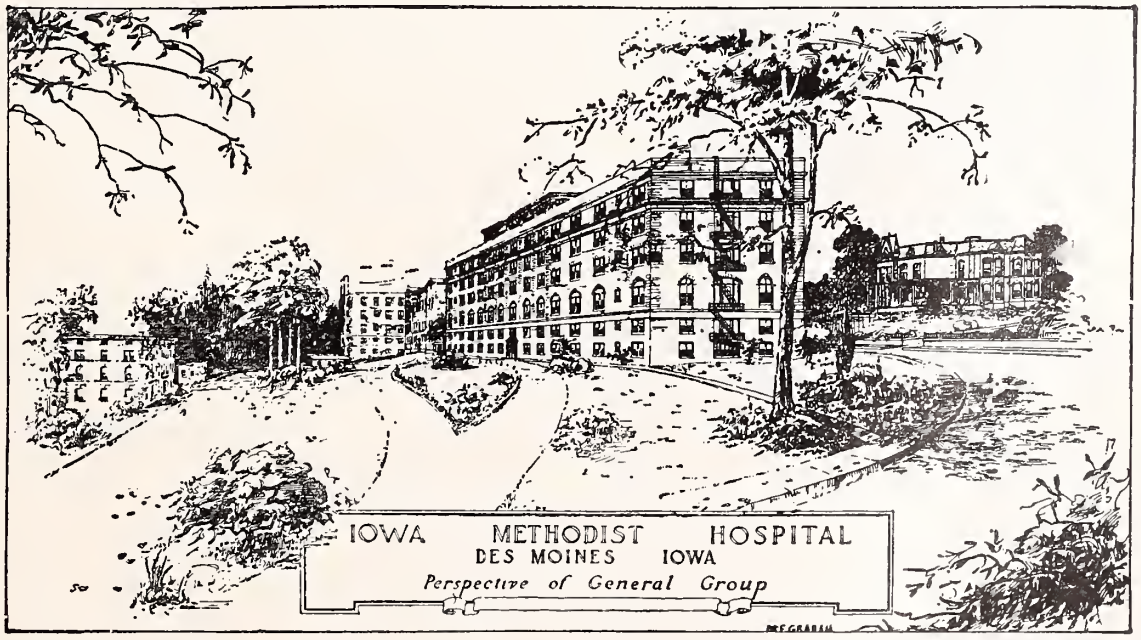
In a paper published in the July 7 number of The Journal of the American Medical Association, Dakin, Lee, Sweet, Hendrix, and LeConte tell of the use of this substance in 160 cases of infected wounds. They found that when sprayed upon these wounds or poured into them the length of time required for healing, compared to the usual methods of treatment, was reduced to one-third. The wounds were cured in one-sixth less time than by the celebrated Carrel irrigation method; also, the expense of dressings and nursing, and the technical skill required in the application, was much less than by the irrigation method. It has also been found that Dichloramine-T, when sprayed into the nose and throat, is an effective method of treating diphtheria and meningococcus carriers.

Dichloramine-T contains about 29 per cent. of chlorine, and, as already indicated, can be used in very high concentration. It is also possible to apply to infected tissue solutions from twenty to forty times as great as is possible with the Dakin-Carrel hypochlorite solution.

This substance has been placed upon the market by The Abbott Laboratories, who also supply the Chlorinated Eucalyptol and Chlorinated Paraffin Oil prepared ready for use, according to the method described by Doctor Dakin. Dichloramine-T promises to be a worthy partner of Chlorazene, the water-soluble antiseptic also devised by Dakin, which was placed upon the market by The Abbott Laboratories and which is proving such a phenomenal success.

Physicians are advised to familiarize themselves with these two antiseptics. Literature and prices will be sent on request. The Abbott Laboratories, Chicago.

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SURGERY OF THE THYROID*

E. Starr Judd, M.D., Rochester, Minn.

Very little is known regarding the etiology of the different types of enlargement which occur in the thyroid. Some observers believe that certain types of enlargement are the middlemen, so to speak, and that the real lesion and basis of the trouble is in the cardiovascular or nervous system. Although this may be true, there is a definite syndrome accompanying the different kinds of goiter, furthermore, these symptoms will subside after the thyroid condition has been remedied.

The surgical treatment of cysts, adenomas, and colloid enlargements of the thyroid has been practiced for a great many years, especially in Switzerland, where such conditions are common. Only comparatively recently have operations been performed for the relief of toxic symptoms produced by thyroid changes. Basedow in 1840 first thoroughly described cases of exophthalmic goiter. By far the most important work in the development of the surgery of exophthalmic and thyrotoxic goiters has been done in this country by Crile, C. H. Mayo, and Ochsner. Even now operative results are not perfect, yet the progress made in the surgery of the thyroid in this country in the past twenty years, is certainly one of the most if not the most important advancement made in surgery during that time. It is now generally conceded that most forms of goiter require surgical treatment for permanent relief. However, there is one form, the so-called adolescent goiter, that responds to medical management; and often some of the milder toxic types may be relieved without operative interference.

It is not my purpose to attempt to cover in this paper all of the phases of treatment for lesions in the thyroid but to present more especially a classification of these cases. Enlargements of the thyroid fall into four distinct groups based on the clinical features and the histologic changes in the gland.

*Presented before the Iowa State Medical Society May 11, 1917, Des Moines, Iowa.

Group I, simple colloid goiters, either of the adolescent type or those produced by small adenomas which often develop about the time of the menopause. Group II, adenomatous pressure thyroids, characterized by a single large adenoma often accompanied by a number of smaller ones. Group III, toxic goiters, including those designnated as hyperplastic and also the so-called degenerating adenomas of thyrotoxicosis (Plummer). Group IV, malignant goiters.

Group I. Simple goiters most often occur in young girls at puberty and are frequently spoken of as physiologic enlargements. They are not always accompanied by symptoms; and when symptoms are present, it is frequently difficult to determine whether they have resulted from this type of thyroid. The increase in the size of the thyroid is due chiefly to the growth of colloid although often there are areas of quite definite hypertrophy. Usually the gland is soft and lobular and is generally enlarged. In some instances in which the enlargement of the thyroid is the only noticeable evidence of trouble, the diagnosis is easy, but when the patient is nervous and hysterical as girls of this age may be, the differential diagnosis may be difficult. The difficulty lies in distinguishing between the nervous features noticeable in a purely nervous person with enlargement of the thyroid and those observed in a person suffering from a mild degree of hyperthyroidism. In both instances, the thyroid enlargement may be of practically the same degree and consistency. It is probable that at puberty, many girls have a very slight degree of hyperthyroidism which may persist for some time and then subside. The patient who is suffering with exophthalmic goiter is seldom hysterical. The tremor associated with true hyperthyroidism is finer and more regular. A true bilateral exophthalmos is characteristic of hyperthyroidism. Muscular strength is more impaired in the true goiter patient. The pathologist even after histologic sections cannot always say whether there is a true hypertrophy. For this reason it would seem that there cannot be a great deal of difference between the two types. The course of the adole-

scent goiter varies. A large percentage subside within a few years and the enlargement disappears. Often small doses of iodine will diminish the glandular enlargement and relieve the symptoms. In other patients the gland continues to increase in size, causes difficulty in breathing and swallowing and may produce choking. If the gland continues to increase in size the enlargement may be due at least partly to the development of adenomas within the colloid growth. Often growth is so slow that pressure symptoms are not produced for many years, but usually if an adolescent goiter does not disappear within a few years, it will continue to develop. In some instances the growth becomes very large and produces marked pressure symptoms as well as evidence of intoxication. The treatment in this group of cases varies. A simple adolescent goiter should be given an opportunity to subside under proper management, and if it does not disappear after puberty is well established, it should be removed. Operative treatment is advisable, especially if the enlargement begins to increase, as it will surely make pressure and may possibly change its form and become toxic. Colloid enlargement may persist until about the menopause without producing marked symptoms and then cause a very severe intoxication. For this reason it is advisable to remove the enlargement before the extreme degree of intoxication has occurred.

Group II. The characteristic symptom is pressure. The enlargement is due to the presence of the adenomas. The remaining part of the thyroid is apparently normal. The enlargement may be present for some time before symptoms arise. The first symptoms are usually choking, a sense of pressure, and shortness of breath on exertion. The tumor may increase greatly, producing marked deformity of the trachea and larynx, and perhaps a paralysis of the recurrent laryngeal nerve. These tumors are round, hard, definitely encapsulated, and move freely in the neck during the act of swallowing. They are definite adenomas and are sometimes cystic. Surgical interference offers the only means of relief for this type of enlargement. The adenoma must be removed, and if necessary, a part of the thyroid tissue surrounding it. These patients frequently say that they are not inconvenienced by the enlargement at all, and they are inclined to put off surgical treatment. I believe it is much better to remove the adenoma before any nervous or toxic symptoms develop, as more of the danger in these operations results from the condition of the patient at the time than from the operation itself.

Group III. The goiters of this group may be divided into two distinct types. One is comprised of the hyperplastic thyroids producing the symptoms of exophthalmic goiter. The other is characterized by the toxic degenerating adenomatous thyroid producing what Kocher calls the "goiter heart." Although these two types differ in many respects, it is entirely possible that the symptoms are produced by the same agent or toxin. An exophthalmic goiter is a definitely hyperplastic thyroid. Hyperplasia is usually present throughout the entire gland. Although a small part of the thyroid may appear to be nearly normal, areas of hyperplasia exist in other parts of it. Usually there is a general enlargement of the gland although sometimes the most severe symptoms are noted when the gland is barely palpable. Occasionally the gland is not only hyperplastic but contains adenomas. Sometimes after the polar vessels have been ligated several months, adenomas will be found in the hyperplastic gland. This type of thyroid is usually firm, hard, and very vascular; on section it appears cellular and without a great deal of colloid. Glands of the thyrotoxic type vary considerably. A patient who has only a small adenoma of the thyroid may have a very marked toxemia. Other thyrotoxic patients may have general diffuse colloid enlargement of the thyroid with small adenomas distributed throughout the gland. The enlargement is of the colloid adenomatous type; in some instances the colloid predominates, in others, the adenomas. The degree of intoxication seems to coincide with the amount of degeneration in the adenomas and the surrounding thyroid tissue. Exophthalmos is characteristic of the exophthalmic goiter and is never seen accompanying the purely thyrotoxic gland. A patient suffering from exophthalmic goiter has typical tremor, tachycardia, nervousness, and usually marked loss in weight and characteristic metabolic changes may be observed. The thyrotoxic patient has no definite tremor though there is often nervousness from exhaustion. The pulse is that of a dilated and damaged heart and usually there is a marked increase in blood-pressure. In most instances, a person suffering from a thyrotoxic goiter has more actual damage to the heart muscle. Mobius was first to suggest that there may be an over-secretion in the gland in exophthalmic goiter. There is a theory that in thyrotoxic goiter the symptoms are produced by the absorption of the products of degeneration in the adenomas or in the thyroid itself. The administration of iodine and different preparations from the thyroid frequently seems to relieve patient's suffering from hyperplastic goiters. On the other

hand, iodine, especially seems to increase the symptoms in the thyrotoxic patient. Ligation of the thyroid vessels and injections of boiling water into the gland often greatly relieve the symptoms accompanying exophthalmic goiter. If a thyrotoxic goiter is present, ligation of the vessels will frequently modify the symptoms though this procedure does not result in the marked changes often observed when the goiter is of the exophthalmic type.

The treatment of goiters in the toxic group is definitely surgical, but the results will depend very largely upon the method of procedure. It is a well recognized fact that the exophthalmic goiter should not be operated upon during the period of acute exacerbation and that the steadily increasing intoxication must be arrested before any radical procedure is attempted. It is often necessary to keep these patients in bed for some weeks before attempting any operating at all. Any surgical interference undertaken while the symptoms are increasing is liable to result seriously. If the operation is performed during the time the symptoms are decreasing, the result is almost sure to be satisfactory. Patients suffering from thyrotoxic goiter often come for treatment during the period of broken compensation, with marked dilatation of the heart, swelling of the extremities, and even auricular fibrillation. Operations performed in the presence of these conditions are attended with a high mortality. Rest in bed and large doses of digitalis over a considerable period of time will often establish a good compensation and make the patient a very much better surgical risk.

Group IV. Sarcoma of the thyroid is very rare. We have seen only six cases since 1905. The early stage probably could not be diagnosed except histologically. Even if the malignancy could be recognized clinically, it would be inoperable. Fortunately carcinoma is also not common. The basis of a clinical diagnosis of malignancy is usually the hardness of the tumor. If a definite clinical diagnosis of carcinoma can be made, it is then usually inoperable. Often the tumor in the thyroid is small. Its extension into the surrounding tissues results in an early involvement of the recurrent laryngeal nerves and frequently produces a total loss of voice, a characteristic of cancer patients. When the cartilaginous rings of the trachea become infiltrated there is great difficulty in breathing, at least to a more marked degree than is seen in benign cases. In our experience even in the cases of malignancy that were not recognized until a histologic section was made, satisfactory operative results have not been obtained. We have operated upon a number of patients suffering from cancer of the thyroid who had had the gland resected from five to fourteen years previously for supposedly benign lesions. These patients usually obtained relief following their first operation and remained well until the definitely malignant tumors appeared in the thyroid. Our experience with carcinoma of the thyroid shows that it is very malignant. I presume that in these last cases the original operation was for a benign adenoma and that carcinoma developed in the remaining piece of thyroid tissue.

Frequently a persistent thymus has been present in fatal cases of hyperthyroidism and for a time it was believed that the interrelationship between the two glands warranted an attempt to remove the thymus at the time of the thyroidectomy. In a few instances we have performed thymectomy in conjunction with the thyroidectomy but results do not warrant this procedure as a routine. The operation is technically difficult and there is some question as to what is gained by it.

Features of the Technic—A great deal has been said regarding the anesthetic which should be employed, and many different views have been expressed. Local anesthesia has been used a great deal and is very satisfactory for small non-toxic goiters. However, it does not seem that there is any contra-indication to the use of a general ether anesthetic in most goiter cases. In our experience, the operation is usually performed much more satisfactorily under a general etherization. However, there is a good deal of advantage in using a combined anesthetic, *i. e.,* a small amount of one-half per cent. novocain injected into the line of incision at the time the patient is being generally anesthetized. With this procedure the operation may begin before the patient is completely anesthetized and in reality the other is used only during the operation in the deeper tissues. As soon as the goiter has been removed the ether may be stopped and the operation completed without it as the superficial tissues have been prepared by the injection of the novocain. There is much less oozing in the superficial tissues if they have been infiltrated with novocain. We use the combined anesthetic in all of our operations on the thyroid. It is important that all nervous patients and those who actually have a damaged heart should be more or less generally etherized. In our experience the operation carries les danger than when it is attempted under a local anesthetic.

The actual technic of thyroid surgery is more difficult than that of surgery in any other region. Experience and improvements in technic have

helped a great deal in the control of the blood-vessels during thyroidectomy. In the hyperplastic thyroid, all of the superficial vessels are dilated; there is oozing from all of the small vessels, and bleeding is hard to control. But the most serious difficulty arises from the inferior thyroid vessels slipping backward beneath the cervical fascia. If this occurs, the dissection should be made under the fascia and the vessels ligated. If these vessels are not tied, bleeding may continue under the fascia into the mediastinum, and may prove very serious if not fatal. Even the smallest vessels should be ligated in a thyroidectomy. The slightest oozing afterward may produce a clot, tracheal pressure, and difficulty in breathing. Special attention should be paid to the superficial vessels.

Injury to the trachea, and possibly tracheal collapse during the operation may add tremendously to the risk of the thyroidectomy. Fortunately, tracheal collapse is not common; it occurs more frequently in cancer cases in which the cartilages have been softened by the extension of the malignancy. Occasionally, it will occur when a large adenoma has made considerable pressure upon the trachea. If it does occur, the fascia over the trachea should be grasped on each side with a hemostat and the collapsed rings pulled apart. Usually, after the lumen has been re-established in this way it will be maintained without further difficulty. If the trachea persists in collapsing or has been injured, it may be necessary to make a tracheotomy and keep a tube in place for a few days. Formerly, it was considered necessary to dissect the thyroid tissues off from the trachea and cartilages as closely as possible, but recently, we have found that if we preserve the fascia about the trachea and larynx and possibly leave some thyroid tissue over the cartilage, the postoperative convalescence is much easier, coughing and irritation is less and the accumulation of mucus in the trachea and larynx is greatly diminished. This is a very important factor in the technic of thyroidectomy.

Injury to the recurrent laryngeal nerve is not common, but when it does occur it is most exasperating. Our experience has taught us that it is very important to know the condition of the vocal cords before operating. We are often surprised at the amount of paralysis existing before the operation. Paralysis produced by the goiter apparently comes on so gradually that the opposite cord may relatively increase its function and the arytenoids continue to approximate. This approximation is to one side rather than in the middle of the larynx. The patient is not aware that any paralysis has occurred, because as long as the arytenoids can be approximated the speaking and singing voice remain almost normal. Knowledge of the condition of the laryngeal muscles will enable us absolutely to avoid the region of the nerve which supplies the muscles that are doing the greater part of the work. If the muscles on one side of the larynx have been greatly inhibited by growth in the thyroid, preservation of the nerve supply to those on the opposite side will certainly constitute an important feature of the operation. Under these conditions, a very slight amount of traumatism to the good recurrent laryngeal nerve might permanently incapacitate it and the patient would be unable to speak. I think that the recurrent laryngeal nerve has almost never been cut although a number of times it may have been grasped in the hemostat. In the latter instance it will probably recover its function eventually, but the process may be very slow.

In all probability the loss of voice after goiter operations is frequently due to a change in the position of the larynx and the trachea by the removal of the thyroid. This is especially true if there has been a great deal of pressure from the growth or edema and swelling in the tissues after the operation. Fortunately, the laryngeal muscles seem to have a tendency to hypertrophy and carry the arytenoid on one side across the midline to its opponent even though the opponent may lie almost motionless on account of the incapacity of the muscle on that side. The restoration of the voice after the recurrent laryngeal nerve has been severed or traumatized I believe is due to this hypertrophy and the increased function in the good cord rather than to restoration of function in the traumatized side.

There has been considerable discussion as to the amount of thyroid which should be removed. Extirpation of the entire gland will result in serious changes from the loss of thyroid secretion. On the other hand, if a sufficient quantity is not removed, there will be a recurrence of symptoms. However, it is comforting to know that at least experimental work on animals has shown that if a very small piece of thyroid tissue is retained with its circulation and nerve supply, myxedema will not develop. In our series of cases we have not observed a permanent postoperative myxedema, and in many instances a very large part of the thyroid gland has been removed.

Preservation of the posterior capsule, especially since more tissue is being saved posteriorly, has resulted in sparing the parathyroids. Our laboratory workers have diligently examined many thyroids but have seldom been able to find that the parathyroids were removed with them. We have observed

only seven or eight instances of temporary tetany and this condition apparently resulted from trauma to the parathyroids. In one instance, it followed the ligation of both inferior thyroid vessels at one time. This was the most severe case we have seen. Tetany persisted for seven weeks. We controlled the symptoms with calcium lactate. At the end of the seventh week the symptoms subsided and this patient has remained well ever since. In other instances, tetany occurred when a considerable portion of the posterior part of the thyroid had been saved, and when we least expected it. Trauma to the circulation or to the nerve only supply of the parathyroids is the only basis on which we can explain this condition. In all of these cases, the symptoms subsided in a short time—usually a few days.

In conclusion it may be said that at the present time, the surgical treatment of lesions of the thyroid rests on a definite clinical and pathologic basis, and that the results more than justify this method of procedure. Most striking results are constantly being obtained by the removal of the goiters producing toxic symptoms.

GOITRE, USE AND MISUSE OF TREATMENT*

Eli Grimes, M.D., Des Moines

Goitre is a generic term and includes all those abnormal conditions in which the thyroid plays an active part. A comprehensive study of goitre must include both structural changes and constitutional manifestations. Hypertrophy and hyperthyroidism are not necessarily associated, and hypothyroidism is not necessarily associated with atrophy.

The thyroid as an organ of internal secretion, constitutes a link in a chain of such organs; its function is not independent of the other organs as it is governed by, and governs the function of the other endocrine organs.

Time will not permit a discussion of this phase of the subject, but the more important relations must be noted in order to elucidate certain points in therapy.

The thyroid inhibits the function of the insular apparatus of the pancreas. Therefore, hyperthyroidism diminishes the power of carbohydrate assimilation, which fact is taken advantage of in our test for hyperthyroidism. The insular apparatus of the pancreas inhibits the function of the adrenalins and the thyroid accelerates the adrenalin function; therefore in diabetics, where the function of the insular apparatus of the pancreas is depressed, the adrenalins are very sensitive to thyroid secretions, so that thyroid extract administered to the diabetic increases blood-pressure, whereas, in a normal individual thyroid substance lowers blood-pressure. The hypophysis has many properties and functions of the thyroid.

Hyper and hypo-thyroidism do not always present classic symptoms for a diagnostic scheme; consequently are often overlooked, the condition being mistaken for tuberculosis, arteriosclerosis, etc.

It is evident that a classification of goitre is not satisfactory because of the complex relation to other endocrine tissues, and our imperfect knowledge of function.

An analysis of the usual accepted classification of goitre shows that factors outside the thyroid determines classification as well as intrinsic conditions. The following classification is usually accepted:

First—Simple hyperplastic goitre.

Second—Hyperplastic toxic goitre, (the usual exophthalmic type).

Third—The non-hyperplastic toxic type—those conditions of hyperthyroidism without demonstrable hyperplastic changes. Two types of this class are recognized—those with high blood-pressure and those with low blood-pressure.

To this classification must be added that group of conditions characterized by hypothyroidism with or without demonstrable changes in the thyroid. This classification, while presenting a practical working scheme, is not consistent with physiological and pathological facts. If hyperthyroidism in one instance produces low pressure and in another high pressure, it is not because of the difference in hyperthyroidism but a difference in the functional breadth of the associated endocrine organs.

Hyperthyroidism may or may not produce glycosuria, depending upon those factors which accelerate or depress the functional activity of the insular apparatus.

We will first consider the simple hyperplastic goitre. This is a condition frequently seen in youth. It may or may not be associated with constitutional diseases and is without evidence of hyperthyroidism. We have much literature on the etiology and distribution of this condition, but I wish to especially call your attention to the transitory goitre of youth, the exact cause of which is not known. In nature it is cystic, parenchymatous or interstitial. It is not necessarily associated with either local or constitutional dis-

*Read before the Sixty-sixth Annual Session, Iowa State Medical Society, May 9, 10, 11, 1917, Des Moines.

ease; observed in the female, coming on in early puberty,—more manifest at the menstrual periods, disappearing completely after the menstrual life is well established. Again this type of goitre is found in the young associated with incipient phthisis, though the exact relation to this infection has not been determined.

Diagnosis of simple hyperplastic goitre must be accurate or else treatment will be not only disappointing but disastrous. In every case we must determine whether or not the goitre is cystic, parenchymatous or interstitial. We must know whether or not it is associated with active pulmonary tuberculosis, and we must know whether or not there is hyperthyroidism.

The treatment first thought of, and which the patient is usually given off hand, is iodine internally and externally. Iodine externally is in every case absolutely worthless, yet in spite of the inconvenience and discomfort of the local application of iodine, this measure is still practiced.

Iodine internally, in the form of iodides or iodine, is a favorite treatment. This does good only in a very small per cent. of cases. It does positive harm where the goitre is parenchymatous or cystic. Many cases of simple cystic goitre have been irritated by iodides and passed into the toxic exophthalmic type. In fact the thyroid condition should be determined before iodide medication for any disease is instituted. The iodine poisoning or so-called iodine marasmus is a thyroid process brought on by the drug.

The x-ray is another form of treatment that has become popular with many physicians. As is well known, the x-ray causes a disintegration and disappearance of parenchymatous tissue. X-ray treatment of the thyroid region is fraught with danger. If the treatment is sufficient to cause a disintegration of the hyperplastic tissue, it is sufficient to cause a destruction of the essential parenchyma, and hypothyroidism results.

I have seen two cases of marked hypothyroidism following the x-ray treatment for simple goitre. It is not sufficient to know in this treatment that the tumor is diminished in size, but we must know whether or not that in five or ten years after such treatment the thyroid function will or will not be permanently impaired.

The essential treatment of this condition is hygienic and expectant, and if after sufficient constitutional improvement and lapse of time, the goitre has not subsided, it should be treated surgically. A goitre that does not yield to general measures should be removed for the same reason that we remove a wart or cervical ulceration—to forestall malignant development.

The prognosis in this class of cases is good. Eighty per cent. of observed goitres disappear within two to four years without constitutional symptoms. Upon this fact rests the apparent success of goitre specialists, osteopaths, iodine therapy and other foolish fads. It may be laid down as a fundamental therapeutic fact, that when improvement takes place under opposite forms of treatment, the improvement is not due to the treatment.

The next class; that of hyperplastic goitre or the exophthalmic type, has received much attention in the past few years, and we are all familiar with the clinical course, the classical symptoms and the controversy concerning the treatment. We must remember that the exophthalmic type is associated with a nervous instability, that the rest treatment and regulated life is often all sufficient. We know that a meat free diet is of benefit; that surgical treatment in selected cases is successful. Just when to operate and when not to operate is an individual problem. Improvement under medical treatment may not take place because of the nature of the case or may fail because the patient's life cannot be regulated. In either event operation must be recommended. Treatment in a way is like that of tuberculosis; more hopeful where the patient's life can be adjusted to the disease.

The prognosis in most cases is good but we must remember that of all those surgically treated, only two-thirds are successful.

The next class, hyperthyroidism without hyperplasia or where the hyperplastic changes are not evident; this class of patients deserve a closer study and this condition should be kept more constantly in mind in making our diagnosis. The clinical picture of the mild case is so like that of incipient tuberculosis that a great many of them are so treated. The patient complains of exhaustion, nervous irritability, flashes of heat, headache, various pains and chronic invalidism in general. There is an elevation of temperature closely resembling tuberculosis,—there is loss of weight, asthenia, etc., etc. A diagnosis can be made only after having the patient under close observation for a number of days, when it will be found that the temperature curve is different than in tuberculosis in having a less daily variation. The patient does not tolerate a meat diet and stimulating medication as the tuberculosis patient does. The improvement under rest is much more marked in the first few days than in tuberculosis.

The treatment is rest, a meat free diet and general hygienic measures. Prognosis depends upon conditions of life and the persistence of treatment; frequent child-bearing works against recovery.

If the case is mistaken for tuberculosis, serious results follow removal to a high altitude. The same is true of the heavy protein diet which is most harmful in this class of cases. The so-called case of incipient tuberculosis that goes bad in a high altitude under protein diet is usually a case of hyperthyroidism.

Hypothyroidism, a prevalent condition presenting all grades of variation from complete to partial, follows injury, disease or surgical interference of the thyroid gland, and we must remember that exophthalmic goitre frequently passes over into a case of hypothyroidism. The term thyroid insufficiency would be more comprehensive as there are many conditions and emergencies of life in which the thyroid falls short, giving rise to various functional disturbances. The condition often develops from obscure constitutional causes. The menopause is often associated with hypothyroidism. The indefinite ill-health of the plethoric and obese is often due to this condition, and as a part of the general decay of old age should be considered.

The Diagnosis—The points in diagnosis are high blood-pressure, sub-normal temperature, decreased assimilative ability, cardiac irritability, the picture often being that of arteriosclerosis. The treatment is self evident, thyroid substances and those general conditions which apply to each individual case. When the treatment is so selected, brilliant results follow, but if the treatment is instituted on a mistaken diagnosis, harmful consequences are apt to follow.

From this brief resume of the subject I wish to emphasize a few points sufficiently that they may be helpful. First, simple goitre is usually self limited and there is no specific treatment. Operation to be advised in persistent cases to forestall future developments. Second, simple goitre in the tuberculous is almost invariably mistaken for the exophthalmic type. Third, hyperthyroidism without goitre is frequently mistaken for tuberculosis. Fourth, hypothyroidism is a common condition and brilliant results follow accurate therapy.

Discussion

Walter L. Bierring, Des Moines—I wish to refer to one or rather two points brought out in the paper. One is the relation of thyroid conditions to diabetes. Although the observation is based on only a limited number of cases, it does seem, when exophthalmic goitre and diabetes are combined, that when the diabetic condition is properly treated, preferably in accordance with the Allen plan, the symptoms of thyroid toxemia disappear in a remarkably short time. This may illustrate the inter-dependence of the endocrine glands, or organs of internal secretion. The author has made the statement that hypothyroidism is a common condition, and I wonder if that is a frequent experience. I have no doubt that there are many instances of conditions following the removal of a thyroid where the remaining gland undergoes some degeneration or other change whereby symptoms of myxedema occur. As to just what extent deficiency of the thyroid occurs in the adult in connection with other diseased conditions, appears to me rather difficult to determine. It would require usually the application of a therapeutic test, and most of us hesitate to use the thyroid extract without sufficient indication. I recognize the experience that Dr. Grimes has had along this line, and it is possible that many cases of so-called hypothyroidism have been regarded in a different light. It may be a condition we are overlooking and which requires our attention.

B. Q. Dyer, Ames—I would like to ask if any one has made observations which would seem to indicate a relationship between diseased tonsils and pathology of the thyroid? I have seen a little in the literature about it, and a member of the post-graduate staff in New York told me that in three or four cases where diseased tonsils had been removed he had observed improvement in the thyroid condition, and Dr. Monahan of Chicago has made the same observation. In just what class of cases, if any, Dr. Grimes believes this to apply I do not know, and I rise to make the inquiry.

Chas. J. Rowan, Iowa City—I think there is but very little question as to chronic foci of infection having something to do in some cases with the bringing on of hyperthyroidism, either in the presence of a goitre or in its absence. But because exophthalmic goitre is such an unstable condition—that is, because so many of the cases will improve under different forms of treatment, as was so well brought out by Dr. Grimes,—for this reason I believe we are not yet in position to know just how important the connection is between foci of infection and the hyperthyroidism. It is true that very many competent observers lay much stress on that point and are persuaded that a very important part of the treatment of exophthalmic goitre is to do away with every possible focus of infection, which, while it may not be altogether responsible for the condition, at least probably adds to it in many cases.

Dr. Grimes—Just one point in closing, and that is the test for hypothyroidism. I would suggest that the patient be kept under close observation and that thyroid substance be given, then you can make the diagnosis without any particular harm being done.

SYMPTOMS OF ACUTE INFECTIOUS OSTEOMYELITIS*

HOWARD L. BEYE, M.D., Iowa City
(From the Department of Surgery, University of Iowa)

The material for the paper was obtained by studying the case histories of twenty-five cases of osteomyelitis which have entered the surgical clinic at the University Hospital in the past three years.

Six of these entered the hospital within six weeks of the onset of symptoms, while the remainder were of months' to years' standing. Naturally there are many chances for error in such a compilation but the gross important facts may be obtained with sufficient accuracy to make them worth studying. No cases of osteomyelitis following compound fracture are included in this survey.

At the onset of the disease the youngest patient was two years of age, the oldest twenty-nine, and the average was 11.8. Only two of the patients were over twenty years of age, the great majority being in the actively growing period of life. The ratio of males to females was three to one.

The history of a predisposing factor was present in sixteen of the twenty-five cases or in 64 per cent. In six cases this factor was a very definite injury to the region which later became involved by infection of bone. The injury was usually quite severe—but not enough to produce fracture—such as a kick by a horse or the recoil of a gun, and preceded the infection by forty-eight hours to two weeks. Prolonged exposure from swimming in cold water is given twice as the causative factor. An extra hard day's work is given in one instance.

In seven cases a preceding infection apparently bore an etiological relationship, and this infection varied from a severe attack of grippe to a mildly infected burn on a toe. In one case the attack in the bone followed shortly after an attack of measles, in another after tonsillitis, in still another following a series of furuncles.

The femur was the bone affected eighteen times or 62 per cent. and in twelve of the eighteen cases at the lower end. The tibia follows with five cases or 17.2 per cent. and three of these involved the upper end of the bone—one extending from epiphysis to epiphysis. So in the series of twenty-five cases in which twenty-nine bones were infected, involvement in the region of the knee joint took place fifteen times or 51.7 per cent. The humerus was involved twice, and the scapula, spine, radius and phalanx of finger once each.

In three of the cases there was an involvement of more than one bone. In one case both femurs were infected simultaneously but in one the condition cleared up rapidly without sequestrum or abscess formation. In another case the femur was first involved, two weeks later the radius and after another week a phalanx. In the third case the symptoms at the onset were due to involvement of the dorsal spine, which produced a destruction of the bodies involved, with kyphosis. A few months after the acute illness at which time the symptoms were all referable to the thorax, rheumatic pains developed in the leg and the patient entered the hospital because of an abscess in the tibia.

In two of the cases the picture of osteomyelitis was complicated by joint involvement away from the infected bone. In one the femur was the point of greatest trouble, but there was also symptomatic involvement of the elbow, the opposite knee, and both sterno-clavicular joints and from one of the latter pus was drained. In the other the attack was ushered in with pain in the knee which was diagnosed rheumatism and which cleared up in four days. One week later the scapula became violently infected—although all the pain was referred to the shoulder joint.

The onset in twenty cases or 80 per cent. was a stormy one, and was characterized by severe local symptoms plus the general symptoms of a high grade infection. These symptoms will be taken up separately.

In two cases the onset was comparatively subacute, in one the pain becoming gradually severe and reaching its maximum after a week's durtion, while in the other case the pain became intolerable only after two weeks had elapsed. In the remaining three cases the onset was gradual, although in one of these after having had aching pains in the thigh off and on for a year, part of the time confined to his bed, he was suddenly seized with the characteristic severe pain followed by chill and high fever, which attack brought him to the hospital.

Pain was the outstanding symptom in every case in the series. In fifteen of the cases it was described as sudden in its onset and as terrific, very severe, very bad, boring or tearing. In two cases the patients stated that they were nearly knocked down by the suddenness and severity of its onset. In the remaining five cases with stormy onset, the pain began indefinitely and reached its apex in a few hours. In some the pain was described as cramping in nature and the severe attacks of pain would come on in paro-

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xysms lasting several minutes. In others the pain was spoken of as continuous. In twelve of the cases the pain was referred to the neighboring joint while some felt the pain in the entire involved extremity, and others referred it roughly to the area infected. The patient with osteomyelitis of the dorsal spine referred his pain around the chest in girdle fashion and it was aggravated by movement of the body. In the three cases with gradual onset, the pain was only mildly severe and there would be periods of complete absence from it. It was described as a dull ache.

In marked contrast to the history of pain is that of *tenderness*. In twelve cases no mention was made of it at all. In three the patient insisted that there was none present, one even stating that the limb was eased by rubbing it. Of the remaining ten cases, four stated that tenderness only appeared when swelling did, after the onset. Four gave the history of tenderness over the involved area elicited by the examiner on deep pressure. In two cases superficial tenderness was present in the first few hours. The striking disparity between the history of the marked pain and the comparatively insignificant tenderness must be strongly emphasized. At the bedside, however, it is easy to confuse these two, for the patient will usually complain bitterly at the slightest attempt to manipulate the involved extremity—not, as is so often surmised, because of the tenderness present—but because the pain is increased by such manipulation.

Swelling occurred in the first twenty-four hours of onset in five cases or in 20 per cent. and in four of these it was in the joint. This is important relative to the differential diagnosis between osteomyelitis and the acute arthritides. In only one case was there swelling of the soft tissues in the first twenty-four hours. In four cases swelling took place in the second twenty-four hours; in five between the second twenty-four hours and the end of the first week. In nine of the remainder, swelling was noted anywhere from after a week to months from the onset, and in two cases no swelling was ever noted.

Redness was present early—that is in the first forty-eight hours,—in only four cases, whereas swelling occurred in nine cases during the same period. It was noted in four more in the first few days. It showed up as a late symptom in two, was not present in six, and in nine cases no note is made of its presence or absence.

Fever was a definite part of the picture in twenty-one of the cases at the onset and ranged between 102° and 104.5°. In two of the cases it was only slight—while in two more its presence is denied throughout the course.

A chill was present at the onset in four cases or 16 per cent., and in two it is definitely stated followed the pain. The chills are described as very severe. In two cases they were repeated during the first few days and one of these cases was diagnosed malaria. In nine cases a chill was denied, and in the remaining twelve no statement is made regarding it.

The relation of the joints to the general picture is important from the standpoint of both diagnosis and prognosis. As before stated, pain was referred to the neighboring joint in twelve cases (48 per cent) at the onset. In ten cases effusion occurred into the joint at some stage of the disease. Stiffness was complained of in five cases, and it is noted in one of the cases of gradual onset that the recurring attacks were always accompanied by stiffness of the knee without any effusion into the joint. Contracture of a joint occurred in four of the cases and partial destruction of the joint with ankylosis in three. In seven of the cases no involvement of the joint was present.

Leucocytosis must be averaged from the seven cases which entered the hospital during their primary illness. Four of these were of stormy onset and came to us from forty hours to six weeks after the onset. The average leucocytosis in these four cases was 19,200, the highest being 22,000 and the lowest 15,800.

Three of the seven cases were low grade infections with gradual onset of symptoms, one being the interesting condition spoken of as periostitis albuminosa. The leucocytosis in these cases averaged only 9,000.

In twenty-five cases the condition was diagnosed correctly in four or 16 per cent. In nine cases or 36 per cent. it was diagnosed and treated as rheumatism. Three cases were called typhoid fever, and one was treated for malaria. Poliomyelitis and pleurisy each claim one point. In the remainder no diagnosis is stated.

Summary—Acute infectious osteomyelitis is a disease of childhood and youth. It often follows some local injury or general bodily insult which lowers the local or general resistance to infection. In certain cases the onset will follow upon some demonstrable infection elsewhere in the body.

The onset is usually a violent one, striking the child out of a clear sky and the initial complaint is pain. In a few cases the pain begins indefinitely and increasing in severity reaches its maximum in the course of hours to days. With the onset of pain there is a rapid rise in tempera-

ture until the patient has a fever of 102-104 or higher. Following the onset of pain, in a few cases there will be a chill, severe and protracted, and this may be repeated during the early course of the disease. The other symptoms of a severe infection may be present, nausea and vomiting, great prostration, rapid pulse, delirium, dry tongue, acetone breath.

The pain is excruciating, may be paroxysmal, and often causes the patient to shriek with each new spasm. It produces a complete loss of function of the involved limb which is usually held with the joints partially flexed. Any attempt to move the limb aggravates the pain. The pain is frequently referred entirely to the neighboring joint.

Tenderness is a symptom which in the early stage of the disease must be carefully elicited, for only exceptionally is it superficial. It is a deep bone tenderness and is obtained by steady firm pressure over the involved area. As the pressure is continued, the ache begins and increases until the patient cries out because of it. When the pressure is removed the ache will still persist for a few moments. A careful methodical examination of the patient to demonstrate this bone tenderness is one of the most important—if not the most important point in the diagnosis,—and must usually be done under conditions which will try the patience and judgment of the most patient examiner.

It is the demonstration of this deep bone tenderness away from the joint which is going to make the diagnosis of osteomyelitis when arthritis must be ruled out. After the first twenty-four or forty-eight hours the tenderness may become more marked and more superficial, due to the involvement of the periosteum and soft tissues by the infection, and at this stage swelling and redness of the limb may occur.

Effusion in the joint bordering upon the involved bone may be an early symptom, and with it there is often stiffness of the joint.

Leucocytosis is present and is usually high, averaging from 20,000 to 30,000.

In a small number of cases the onset of the symptoms will be gradual and the local and general evidences of infection will be slight. These cases may closely simulate tuberculosis of bone.

In another group of cases—20 per cent. in our series—there will be involvement of more than one bone, or of joints other than the one adjacent to the infected bone. These may closely simulate acute articular rheumatism.

The x-ray is of no value in the early stage of acute infectious osteomyelitis, at which time we should strive to make the diagnosis.

CONSIDERATION OF CHOICE OF OPERATION IN CHOLELITHIASIS AND CHRONIC CHOLECYSTITIS*

J. E. O'KEEFE, M.D., Waterloo

In taking up the consideration of choice and technique of operation for relief of diseases of the biliary system, it is necessary to take in a general survey covering the many interesting problems of the cause and formation of cholelithiasis and cholecystitis. It is impossible to more than simply mention many of the interesting phases of the pathology and the difficult problems necessary to solve in making a diagnosis, in a paper of this length.

It is now generally conceded that gall-stones are the result of a mild low grade or even a violent infection of the tissues of the gall-bladder and ducts. As to how and through what route or medium the infectious organisms reach the gall-bladder has been subject for discussion for a great many years. Dr. John B. Murphy[1] was one of the first surgeons to teach that in his opinion gall-stone disease and cholecystitis were nearly always preceded by acute or chronic suppuration within the abdominal cavity, and as pointed out by him some years ago, that associated with inflammation of the gall-bladder and gall-stones were found so frequently chronic appendicitis and gastric and duodenal ulcer. In this connection it was given as his opinion that the bacteria reached the gall-bladder through the medium of the blood stream and that the infecting organisms do not always, as formerly supposed, gain access to the bile and mucosa of the gall-bladder and ducts from the intestinal tract through the Ampula of Vater. His teachings were later proved and concurred in fully by Rosenow[2] whose splendid experiments threw new light on the subject, in which he isolated a number of strains of organisms from the tissues, including pieces of gall-bladder and tributary lymph nodes from a patient suffering from cholecystitis; these special strains of bacteria being injected into a large number of animals with a result that showed undoubted infected lesions of the gall-bladder in 80 per cent. of the animals thus innoculated in this one series of experiments. This most interesting finding of Rosenow well demonstrates the selective action of bacteria for certain tissues and organs and proves conclusively that the bacterial infection can be carried to the gall-bladder through the medium of the blood and that the organisms are

*Read before the Austin Flint-Cedar Valley Medical Society, at Waterloo, Iowa, July 10, 11, 1917.

1. Murphy's Surgical Clinics.
2. Rosenow—Mayo Clinics.

not alone to be found in the bile but deeply situated and in a virulent state in the mucous membrane and deep tissues of the gall-bladder. It was partially due to this fact that cholecystectomy was again given new interest as the operation of choice in an increasing number of cases especially since it was found in so many cases that mere removal of the gall stones and drainage, did not cure the patient or remove the infectious agents from the deeper tissues, and sooner or later the patient suffers a recurrence of all of his former symptoms, making it necessary to remove the gall-bladder at a second operation, and this usually followed by a complete and permanent cure of all the clinical symptoms. For many years prior to the discovery of microorganisms in the walls of the gall-bladder and the surrounding lymph nodes, retained and stagnant bile was considered the media for the growth and development of these bacteria which caused the inflammation and the resulting formation of stones; however by many careful bacteriological examinations and experiments the bile, in cases of cholelithiasis and cholecystitis, was found to be sterile and free from bacteria.

The typhoid bacilli has always played an important role in secondary involvement of the gall-bladder and frequently causes a cholecystitis as a complication of typhoid fever, very often later resulting in the formation of biliary calculi. Pyorrhea and suppurating abscesses at the roots of the teeth are well known sources of infection and which may involve the gall-bladder as well as the synovial membranes of joints. One of the latest verdicts rendered against the already condemned tonsil is that it is another source of infection to the gall-bladder. Acute catarrhal jaundice which is sometimes epidemic is occasionally followed by chronic inflammation of the gall-bladder and later by the formation of stones and should be kept in mind when taking the history of our patient with symptoms of gastric and gall-bladder disease.

Except in the very typical cases, the diagnosis is not easily made and in many cases quite impossible and is only discovered at necropsy or while the patient is being operated on for other conditions within the abdomen and when the incision permits the surgeon to palpate and examine the gall-bladder. The clinical history furnishes the best evidence; the sudden attacks of pain referred to the right subcostal region and to the back and right shoulder blade, these attacks coming on without warning while the patient is in usual health and very frequently following the ingestion of a full meal. We are all familiar with the very characteristic behavior of the patient suffering with biliary colic and need no description of mine. The causation of pain in those patients is a subject of much interest. Formerly it was considered by nearly every medical man that the severe paroxysm of pain was entirely due to the presence of stone engaged in passing through the bile duct. This phenomena has been practically disproven by Bevan[3] and others and that the pain is caused by the intercystic pressure in connection with the inflammation of the organ. Dr. Bevan was able to prove in a number of cases of patients suffering from advanced state of gall-bladder infection with the stone lodged in the cystic or common duct, by simply doing a cholecystotomy under local anesthesia and not removing the stone from the duct, with complete relief of the patient from the symptom of pain. In a very similar way he was able to demonstrate this fact in patients suffering from renal calculi, the stone shown by x-ray to be engaged in the ureter and causing the familiar excruciating pain by simply opening and draining the pelvis of the kidney, thus relieving the tension. A few days later a radiograph would show that the stone had passed into the bladder without causing pain.

In making the diagnosis, jaundice as a symptom can not be relied upon and is present only when the common or hepatic ducts are obstructed and their lumen well closed by the presence of stone, and the swelling and edema, or from the results of trauma of the mucous membranes of the ducts, with its subsequent swelling, after the stone had either passed into the intestine or worked its way back into the gall-bladder, causing the bile to back up into the liver tissues and ducts, with its consequent absorption by the blood making the picture of a cholemic patient.

Gastric symptoms are nearly always present, and especially eructations of gas and pain after taking food, and every case suffering from gaseous and painful indigestion should be considered as a possible subject of gall-stones associated at the same time with cholecystitis or inflammation of the gall-bladder without stones being present. Over 75 per cent. of the patients known to have gall-stone disease, suffer from the symptoms of hyperchlorhydria. And too, it is a very common experience for the surgeon to find when operating for gastric or duodenal ulcer, that the case is complicated by gall-stones or by a simple cholecystitis, and it is considered good surgery to do a cholecystectomy in addition to the operation for ulcer if the patient's condition is good. One should have no serious difficulty in making a differential diagnosis of appendicitis and gall-stones. Stone in the right kidney may simulate biliary

3. Bevan—Chicago Surgical Clinics, February, 1917.

colic. Here the x-ray is of great advantage, as renal stone is nearly always demonstrable in the radiograph. An elongated and partially obstructed duodenum, from kink or band, is a common cause of pain and distress in the upper abdomen and should be taken into consideration when making a diagnosis of cholelithiasis, while in perforating or duodenal ulcer the symptoms are more characteristic and are not so easily associated and mistaken for gall-bladder symptoms. In connection with the clinical symptoms, the physical examination of these patients will disclose tenderness of varying degrees over the region of the gall-bladder and in the back at about the ninth rib opposite the gall-bladder. If the patient is asked to take a deep inhalation while you are making direct pressure over the distended tender gall-bladder, she will find it impossible to do so without causing sharp pain. This symptom I find to be invariably present, especially during or following a recent attack. Enlargement of the left lobe of the liver is one of the physical findings, as has been called to our attention by Murphy, though it may be impossible of palpation on account of the obesity of the patient.

The Rœntgen ray with its many recent improved appliances and well worked out technique of operation, has become a valuable aid in making the diagnosis in the doubtful cases and should be employed more often. I was quite surprised on reading of the number of successful radiographs showing gall-stones in a paper by Dr. George Pfahler[4] of Philadelphia, and would like to read his conclusions in this paper, which are as follows:

1. Gall-stones can be shown only when they are composed of substances of greater or less density than the surrounding tissues. This will usually mean that they must contain some lime salts though the quantity may be small.

2. My records show positive findings in 74 per cent. but I believe in general one cannot count on more than 50 per cent. being demonstrable. I believe that a negative diagnosis at present has no value.

3. It is possible that with improved technique when we find the gall-bladder small and still find no stones, it may become of some value in a negative diagnosis.

4. The estimation of the value of this method of diagnosis must be based mainly on the work of rœntgenologists who have mastered a good technique and who are thorough in their work.

5. Definite information will be obtained only by continued co-operation of the surgeon and the rœntgenologist.

4. Pfahler—Journal A. M. A., page 1304, Vol. lxii, April 25, 1914.

It is not necessary to mention that any one doing gall-bladder surgery spares no pains or efforts in arriving at a diagnosis and early operation as he well realizes the great danger to his patient in waiting for the many complications that befall the patient with gallstones or even cholecystitis. General systemic infection, chronic nephritis, with degeneration of the muscular fibers of the heart and its consequent fatal results, not to say anything concerning the quite too frequent primary carcinoma of the gall-bladder and ducts as the result of chronic irritation.

There is no known successful medical treatment for the cure of gall-stones, and now the internist and family practitioner have conceded that it is a surgical disease and are more generally co-operating in seeing that their patient is referred to a competent surgeon for an early operation.

As to the choice of technique of operation, it depends largely on the experience of the operator and the individual case and as Deaver[5], in discussing Cholecystostomy vs. Cholecystectomy before the meeting of the Clinical Congress of Surgeons last year, said "It depends many times on the man behind the gun."

Cholecystectomy is indicated in all cases of gall-stones where the gall-bladder is contracted with thickened walls and mucous membranes ulcerated or gangrenous as the result of mechanical injury and infection. Stricture of the cystic duct, with a large pale gall-bladder is an undoubted indication for its removal. The so-called strawberry gall-bladder, with or without stones, should be removed, as a simple cholecystotomy with temporary drainage has failed so many times to result in a permanent cure, the patient usually suffering a recurrence of all symptoms within a year. The surgeon should have no doubt in doing cholecystectomy in the case of a primary cancer of the gall-bladder or cystic duct. Should, however, the common duct be the site of involvement, the gall-bladder should be anastomosed with the duodenum or as practiced by W. J. Mayo,[6] the anastomosis should be to the pyloric end of the stomach which he considers much the better procedure. In either of these operations one must determine first; that the cystic and hepatic ducts are open and that bile may pass unobstructed into the stomach or duodenum. Chronic empyemia of the gall-bladder is another rather well defined indication for its excision. Gangrene of the gall-bladder from any cause is best treated by cholecystectomy; however, it is

5. Deaver—Cholecystectomy vs. Cholecystostomy, Surgery, Gynecology and Obstetrics, page 284, Vol. xxiv, March, 1917.

6. W. J. Mayo—Mayo Clinics.

in this class of cases that the greatest number of fatalities occur. Simple drainage may be advised with the removal of the gall-bladder after the acute symptoms subside. Glycosuria is frequently found associated with gall-stone disease and the removal of the gall-bladder has resulted in many instances, in the disappearance of sugar from the urine and an apparent full recovery of the patient, due undoubtedly to the removal of the source of infection.

In connection with this subject of cholecystectomy I would again like to quote from the paper read by Dr. John B. Deaver[7] before the Medical Society of the City of New York in nineteen sixteen in which he states that it is his practice to remove all badly diseased gall-bladders and continues to comment later on in his paper, and says that "if there is any question in abdominal surgery more difficult to decide with finality, and on the basis of incontrovertible evidence, than this same problem of cholecystectomy vs. cholecystostomy, and if there is, he is not aware of it." Cholecystostomy for permanent or temporary drainage of the gall-bladder, still holds a valuable place in the treatment of gall-stones, cholecystitis, cholangitis or chronic pancreatitis. However, in a recent paper by Judd[8], he gives us his opinion that even chronic pancreatitis is best treated by the removal of the gall-bladder as proven clinically and by experiments showing that after the removal of the gall-bladder the ducts become dilated and after a time, on account of the pressure in the ducts, the sphincter of Oddi which controls the flow of bile into the intestine, becomes dilated and relaxed, allowing free drainage of the common and pancreatic ducts, resulting in the subsidence of all symptoms of pancreatitis.

Cholecystostomy is the operation of choice in all cases of gall-stones where the organ is only slightly impaired, there being no evidence of ulceration or stenosis of the cystic duct. Drainage of the gall-bladder should nearly always be done as a preliminary operation in severe cases of jaundice when the more radical operation of cholecystectomy would be counter-indicated on account of the tendency and acquired disposition to hemorrhage.

In reference to the comparative mortality of the two operations, it is generally conceded that there is very slight difference, it being only a little greater in cholecystectomy which, however, is accounted for by the more serious condition of the patient and a greater amount of pathology making the removal of the gall-bladder necessary. Another factor of some importance in connection with these operations is that the period of disability and stay in the hospital is much shorter after cholecystectomy.

It is not within the scope of this paper to discuss the technique of the operations. However, I would like to mention before closing, some of the dangers that may occur during or following the more radical operation. And here too I would like to mention some of the causes for failure of obtaining permanent results in either operation. Failure to find or remove all of the stones at the time of operation is a common occurrence and we must admit that it is the cause of recurrence of the symptoms and not the reformation of stone in many instances. This is not necessarily a stigma on the operator if a good careful effort on his part was made in the search of the ducts, as sometimes it is impossible to palpate or probe or in any way locate a stone in the hepatic or distal end of the common duct, especially if there are many adhesions present, and this misfortune befalls the most experienced surgeon occasionally. One of the most serious accidents that can happen to a patient and to the surgeon, is to cut off or severely injure the common or hepatic ducts, and if you have any doubt as to how frequently this does happen, a visit to one of our large near by clinics or the clinic of any surgeon with a large practice, will afford you ample opportunity of watching one of the surgeons sweating while he is trying to restore the bile tract so it will drain into the intestine where it belongs, instead of out onto the poor, half starved, emaciated patient's abdomen and clothing. Secondary hemorrhage as the result of a ligature slipping is a serious accident. Free drainage of bile from the stump of the cystic duct on account of an insecure ligature, is rather a bad accident should it occur soon after the operation, as it may result in peritonitis, or more frequently in the infection of the suture line of the abdominal wall with a consequent non-union. In the operation of cholecystostomy of course there are not these dangers, but failure to cure the patient of a cholecystitis or pancreatitis is often due to using too small a tube and removing it too soon after the operation.

7. Deaver.

8. Judd—Cholecystitis; Changes Produced by the Removal of the Gall-Bladder. Boston Medical and Surgical Journal, Vol. clxxiv, page 815-825, June 8, 1916.

MEDICAL RECORD

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THE SIGNIFICANCE OF MUCOUS MEMBRANE DISTURBANCES IN THE UPPER RESPIRATORY TRACT*

FRANK G. MURPHY, M.D., Mason City

The radical surgery that a few years ago was being practiced by rhinologists and laryngologists has been considerably lessened because of the many disappointing results obtained.

The internist and the physiologic chemist are impressing upon us the fact that most of the mucous membrane disturbances from which we suffer, are from protein poisoning the result of faulty metabolism.

The object of this paper is not to decry the necessary surgical operation of the nose and throat when operative procedure is found to be necessary, but because of the continued throat irritation, sinus disease, and mouth breathing after operation that is so common, the fact is forced upon us that medicinal treatment in these cases in the first place, and not a surgical procedure, should have been carried out. Faulty metabolism may be the result of a leuetic taint, a disturbance of the ductless glands, an intestinal stasis or other foci of infection.

In the New York Medical Journal of June 16, 1917, Beverley Robinson of New York City, in a communication entitled, "Some Misleading Fads of the Time," says, "Not many years ago we were over-ridden by specialists who extirpated ovaries and tonsils, that Dr. Wm. M. Polk of New York stopped the former operation in a measure and Dr. John N. Mackenzie of Baltimore ended the latter." That the waning of the tonsillectomy fad has not yet struck Iowa to any great extent we must admit. However, every fad has its day and tonsillectomy may soon find its proper place. As few have been more guilty than I have been in this respect, I have no assurance that I shall not engage wholeheartedly in the next fad that comes along. However, a thorough examination of the patient with close attention given to the habits and diet of the patient, should keep us from going far astray.

The life of the nose and throat specialist is not one of celestial bliss at least all the time. I remember when we had to do a good deal of talking to get to do a much needed tonsillectomy and now Mr. Jones will bring little Johnnie to the office and inform us that his tonsils and adenoids must be removed and that if we do not do it they will take him to some one who appreciates the horrible condition he is really in and who will operate upon him. I think children are often operated to relieve the mental condition of the father and mother.

The lay press, the school nurse and sometimes the unguarded remark of a physician is responsible for much of this anxiety on the part of parents.

To remove a gummatous tumor from the nose of a patient is to give him much comfort and relief, but we know we have not performed our greatest duty to the patient if we do not keep in mind that the tumor was only a local manifestation of systemic disease. To a certain extent we should look in the same way upon the disturbances in the upper respiratory tract; that it may be the result of a general toxemia.

We, that were caught fifteen and twenty years ago with the turbinotomy fad, will remember how many of our patients failed to enjoy comfortable nasal breathing after we had operated their noses and occasionally after we had operated them several times.

The operations for sinuitis, submucous resection, mastoidectomy, adenoidectomy, and tonsillectomy have had their day and now the operation for periapical abscess is having its place in the sun. I suppose it is natural that we should carry these operations to the extreme after their inauguration. It may be best that they should have been overdone for a time for it is thoroughly impressed upon us that there is much benefit in them all when once a correct diagnosis has been made. Evidence is accumulating to the effect that a thorough physical examination is necessary before any operation should be performed. Relying much upon the specialist in internal medicine and upon a group diagnosis may be the fads of the immediate future; at any rate if they are carried on for ten or fifteen years we shall have a much better idea of the relative importance of the various branches of medicine by that time.

The spraying nose and throat specialist has also gone and has left to mourn his departure, those only who hold in grateful remembrance his easily acquired coin of the realm.

I do not wish to be understood as minimizing the importance of surgical procedures in the upper respiratory tract, when, after a thorough examination of the patient, it is found necessary. A turbinotomy for the relief of sinuitis or nasal obstruction is of little avail when the etiological factor is an intestinal stasis.

The patient who complains that he has catarrh and that he does not always have comfortable nasal breathing, catches cold easily, is likely to be suffering from a toxemia. A nose operation and a nasal spray are very likely the things he least needs. An operation may be of benefit to

*Read before the Austin Flint-Cedar Valley Medical Scciety, at Waterloo, Iowa, July 10, 11, 1917.

him but surely he should have a thorough examination before an operation is attempted. We all admit that this is a self-evident proposition though no one of us is capable of doing it. A thorough examination by one physician or group of physicians will not be as thorough in some respects as that made by another physician or group. A *thorough examination* must be thought of *relatively*. So in this way the problem confronts us when the patient complains of catarrh and that he takes cold easily.

The etiologic factors are many. The cause of the patient's complaint may be an intestinal stasis. His case may require the services of a highly trained internist to relieve him though probably the average constipation will be relieved by abstaining from meats, eggs, rice and cheese, etc. I ask these patients to eat a breakfast food which contains flax as one of the ingredients. I mention constipation first as I believe it to be the most frequent cause of mucous membrane disturbances. The patient's complaint may be due to a luetic taint and will respond to light doses of potassium iodide. To be sure, a Wassermann should be made whenever possible, but this can not always be done. His complaint may be caused by a disturbance in the ductless glands, a tonsillar infection or an abscess at the root of a devitalized tooth. The cause is not always easy to find and its eradication may be difficult.

Dr. J. B. Herrick once said that it is easy enough to make a diagnosis if we happen to think of it. So in order to have a large percentage of cures it is necessary to keep many things in mind and most of all that the cause is likely not to be found in the region to which the patient refers his complaints.

A patient may have an ear ache from an impacted third molar, a sinusitis from a peri-tonsillar infection, or an irritated larynx from an infected lingual tonsil. Infections of the lingual tonsil are receiving more attention than they formerly did. The foul breath that is often thought to be of gastric origin, and never is, is often found to be an infection of the glands at the base of the tongue.

The fact that disturbances of the mucous membranes, as well as other systemic diseases, are frequently of dental origin, necessitates our close co-operation with the dental surgeon. We are in the habit of complaining that the dentist does not sufficiently recognize the importance of pyorrhea and periapical abscesses as the causative factors in systemic diseases and while the complaint is often just, we should give many of the members of that specialty the credit for calling our attention, these many years, to the fact that rheumatism, gastritis and other diseases were sometimes of dental origin and their plea fell upon deaf ears.

In conclusion I wish to emphasize the fact that disturbances of the mucous membranes of the upper respiratory tract are invariably due to a general toxemia, though a surgical operation may be necessary to relieve a secondary complication; however, the etiologic factor should receive our first attention.

SUPERVISION OF PUBLIC WATER SUPPLIES BY THE HEALTH OFFICER*

Jack J. Hinman, Jr., M.Sc., Iowa City

Water Bacteriologist and Chemist, Laboratories for the State Board of Health, State University of Iowa

From the health officer's standpoint the two essentials for a public water supply are, first, that it shall be safe water for drinking and all domestic purposes as it comes from the mains; second, that there shall be an adequate quantity for the ordinary uses of the community with a sufficient reserve to take care of emergencies. Another matter of importance to the health officer is the attractive quality of the water, an agreeable taste, a suitably low temperature, freedom from odor, color and suspended matters. Other interests are concerned with an ample pressure in time of fire and with the scale forming properties of the water when used for steam-making. In fact, the industrial plants of a town are often affected by the character of the water available for industrial uses. For example, Patterson, New Jersey, owes its silk industries to the vast quantity of soft, iron-free water which can be obtained from the Passaic River.

To return to the matters of quantity and quality, we should first consider the quantity factor and then take up the question of the quality of the water, because the quality of the water is more nearly under our control. In this country, the daily per capita consumption of water from public supplies varies between 40 and 300 gallons. In Iowa City during the past few years the consumption has run from 97 to 167.5 gallons per person per day. The local installation of meters has reduced the waste of water, but the daily pumpage approximates 100 gallons per person. In installing a plant, the probable increase in population for a determined period is calculated by ordinary statistical methods and this is taken as a basis on which to figure the probable amount of water required. Fire protection requires that

*Read before School for Health Officers, Iowa City, September 21, 1917.

a sufficient reserve of water be maintained. On one occasion, on account of a fire, it was necessary for the local plant to pump nearly a million gallons of water more than the usual daily pumpage. This represented an approximate doubling of the quantity of water treated. If the quantity of safe water available is too small, it becomes necessary to turn to a polluted stream or pond for water. In consequence this foul water may lie in the mains and dead ends for a week or more before it is replaced by a safe supply. Naturally the use of the polluted water is dangerous, and when an emergency has required such a measure, the public should be warned by posters and newspaper notices. Such measures however are not usually efficient. For the water officials and the health officer to keep such matters secret on the principal of "what you don't know, don't hurt you" may lead to disastrous results.

Competent engineering advice is needed in deciding if a water supply will be sufficient. If the town is very small, wells may probably be assumed to yield the required amount. If their water contains too much iron or is polluted, simple measures may be resorted to to remove the difficulty. As the town increases in size, the number of wells and the necessary plant rapidly increase. Deeper wells may yield more and safer water, but water which is often so heavily laden with solid matters as to be almost useless for ordinary industrial purposes.

Infiltration galleries may be laid in stream valleys. Their waters take on most of the characteristics of shallow well supplies. Creeks or larger streams may be held back by dams and considerable quantities stored for use. If the water sheds of the streams are prepared and then patrolled to keep away polluting agencies, the impounded water may be of quite good quality. If no provision is made for protection, the water approaches ordinary stream or river water. Impounded supplies are troubled by algæ which often gives rise to odors and tastes.

The water of almost any stream may be made safe for drinking purposes, but I do not know of any stream in Iowa which furnishes water which is safe for use in its raw condition. In proportion as the pollution of the water increases, the care and skill necessary to insure a safe water increase and the need for rigid inspection and examination becomes more imperative. River water in general will contain less iron and will be softer than well water taken from the valley. It will contain widely varying quantities of coloring material and suspended matter, large numbers of bacteria, and in summer time the temperature of the water will be higher than that of well supplies.

Matters of economy together with local conditions will decide which source is best in each particular case. The health officer should remember that under suitable conditions any of these sources is able to supply a water of satisfactory quality. He should bear in mind that any system which fails at any hour of the year to supply a sufficient quantity of safe water is an unsatisfactory one and a poor investment. Inefficient supervision and operation may cause a good plant to give unsatisfactory service and may be very costly to the community. While he may often lack the support of the city council, the health officer should demand that the water supply be safe at all times and maintain that whatever expense is necessary to keep it in that condition is justified and should be met.

A few moments ago I spoke of various processes for the purifying of water. I want to make a brief mention of the limitations and advantages of the common methods.

Storage of impounded water effects a certain amount of purification. In London, for example, storage for a period often exceeding a month is depended upon as one of the chief factors in the purification of the heavily polluted Thames water. This purification consists chiefly in the settling of the suspended matters, a bleaching of the color, and a reduction of the bacteria due to sedimentation, food conditions, sunlight, etc. London then filters the stored water. Stored water is often troubled by growths of algæ and lower animal forms when stored in the open air. Odors and tastes sufficient in amount to cause complaint by the consumers sometimes results. The usual preventive measures are storage in the absence of light in covered reservoirs and the treatment of the surface water, particularly at the shore line with copper sulphate. About 1 p.p. m or 8.3# of the copper sulphate per million gallons is a usual dose. It is applied as a spray or by rowing about the reservoir a boat to the stern of which a bag of copper sulphate crystals has been tied. The copper rapidly precipitates from the water and it is usually copper-free in twenty-four hours or less. While a continuous copper treatment might not be advisable, coppering several times a year is often necessary and in the amount given without any ill effects on the water or the fish life of the reservoir.

Coagulation of a water is usually brought about by the addition of filter alum (more accurately known as sulphate of alumina since it is not a double salt) or lime and sulphate of iron.

The advantage of the latter process lies in the cheapness of the iron sulphate which is a by-product of the steel industry. In order to remove all of the iron, however, it is necessary to add somewhat more lime than is needed to use up all of the free carbon dioxide which exists in the water. Our local raw water contains about forty parts per million of free carbon dioxide and this requires about 560 pounds of lime [$Ca(OH)_2$] per million gallons. If the free carbon-dioxide is not all removed, part of the iron may be retained in solution as the bicarbonate and later be precipitated. With alum the use of lime is not necessary when treating our hard waters since the presence of free carbon dioxide does not tend to retain the alum in solution. A little lime is helpful, at times, however, in speeding up the reaction.

In either case, properly applied, neither alum nor iron sulphate remains in the treated water. There is some calcium sulphate left, however. This has a tendency to make the scale formed in steam boilers harder and more dense. If more than enough lime is added to take care of the free carbon dioxide, the treated water will be softer than the raw water; if less than enough lime, somewhat harder. The coagulation process works better in summer than in winter since most chemical reactions are slowed up by decreased temperature. The process of coagulation depends for its efficiency upon the precipitate which is formed, and the carrying down of bacteria and suspended matter entangled in it. If the particles of suspended matter are comparatively large, the clarification is more easily accomplished. There is considerable difference in the behavior of the Missouri and Mississippi waters. The former are coagulated and clarified sufficiently well to dispense with filtration in some cases.

Filtration as applied to water plants may be divided into two heads, viz., the slow sand or English type and the rapid sand or American type also known as the mechanical type. The slow sand filter may be dismissed from the discussion as far as Iowa is concerned, since cleaning a slow sand filter is a rather expensive process and our turbid Iowa waters make frequent cleaning essential. The rapid sand plant uses coarser sand than the other type and depends for its success on the coagulum from the iron and lime or alum process depositing on the surface of the sand. A rapid sand filter may be readily cleared by reversing the flow of water and agitating the sand by rakes, air or by high velocity of wash water alone. While a slow sand filter must run from two weeks to a month to be economical, rapid sand filters are usually cleaned from one to three times a day. They should yield a clear water and should reduce the number of bacteria very considerably. Some color is also taken out.

A late tendency has been to slight the operation of the filters and place most dependence on the treatment of the water after filtration by calcium hypochlorite or liquid chlorine. These two substances are efficient germicides and their use is universally recommended. They are not entirely satisfactory when used on turbid water containing considerable coloring matter, since the chemical is used up by the colored compounds and is unable to reach bacteria imbedded in masses of suspended material. The use of more coagulant and more attention to the filtration of turbid waters is worth while. Chlorination alone should not be advised for a water which is even slightly turbid, except in emergencies when nothing better is offered. Calcium hypochlorite is used in quantities up to sixty pounds per million gallons. The maximum quantity which may be used before the taste becomes objectionable, is about 15# per million gallons. About 1.5 to 6# of liquid chlorine are used for a million gallons of water. Under the present war conditions, the liquid chlorine is more economical than the hypo. It has the advantage of being more satisfactory for use in cold weather, of not deteriorating on storage and occupying less room in the plant and being always ready for emergency use. The original installation is more costly than for hypo. The expense is not prohibitive, however, even for a small community. If the supply is from a shallow well or other source which is likely to be contaminated by high water or unusual conditions, the installation of a small size chlorinator is an excellent investment.

Iron is objectionable in a water supply because it precipitates on standing, stains bath room fixtures and white clothes, and tends to favor the growth of the iron-secreting organism crenothrix. This organism may grow so luxuriantly in the mains as to clog them. Iron is usually removed by filtration after precipitation by aeration or treatment with lime. Manganese which sometimes accompanies iron, gives rise to similar difficulties. It is more difficult of removal.

There is nothing definitely known which would lead us to believe that the mineral substances ordinarily found in our streams and wells are not healthful. A soft water may be preferred for drinking by many people, it is certainly more pleasant for washing purposes and more economical for industrial purposes, but there is no good

reason to believe that it is necessarily more healthful for the normal individual than our ordinarily hard waters.

Algæ which are found in a water, may give rise to unpleasant odors and tastes, but they are not considered of importance except in that regard. It is true that they are often associated with large numbers of bacteria, but the bacteria are usually present in the water even when the algæ are absent.

It is the bacterial condition of the public water supply which is of the greatest importance from the health officer's viewpoint. He should know what the bacterial condition of the water really is. In cities and towns depending on the untreated water of wells for their supplies, changes in the quality of a water should be very slow. At times of unusually high water, unusually low water, or at times when a change in the character of the supply is apparent, examination of the water should be made, even though the water is examined at regular intervals once or twice a year.

Where treated water supplies are used, it should be remembered that there may be considerable variation in the output of the plant from day to day. The operation is most likely to be unsatisfactory in the winter or in the very early spring. A turbid water coming from a water plant is usually a sign of improper operation although it may be due to an after precipitation of iron. The chlorination process will not properly act on such water and the bacterial count is usually high. The cause will often be found to be cracks in a packed sand bed, insufficient chemicals or too little sedimentation.

I have endeavored to give a very rapid summary of the common methods used in public water supply plants with some indication as to the times at which the product may be found unsuited for drinking purposes.

The health officer may not always be able to enforce suitable operation of the plants, neither may he be able to bring about advisable changes in the methods used; but he does have the opportunity of knowing the condition of the water supplied. If unsatisfactory, he can advise the public to boil the water until it is again safe to use. In emergency he may send for the chlorinator of the State Board of Health and use the machine until normal conditions are obtained once more.

And now a few words with regard to the examination of water supplies as conducted by the Iowa State Board of Health Laboratories: All our work is directed toward an attempt to determine whether the water is contaminated or not, and if contaminated, whether or not the contamination is from sewage or sewage-like material. Of course sewage is very likely to contain at anytime the specific organisms of typhoid fever and similar diseases. If the water is receiving city sewage, the likelihood is greater than if there is seepage from a private privy vault. In either case, if the bacteria of the disease are deposited in the water by a carrier or in the excreta from a case of the disease, the disease may be reproduced and an epidemic follow.

We do not look for the typhoid organism itself, because it has not been found practictal to do so. The organisms might die out before we received the sample of water, for one thing. Instead of looking for the typhoid bacillus we look for the colon bacillus which is constantly present in the excreta of man and the warm blooded animals. If we commonly find the colon bacillus in 1 c.c. it is regarded as sufficient to condemn the water; if found commonly in 10 c.c., the quality of the water is regarded as suspicious. In the examination of a considerable number of samples of water, we may expect to find the colon organism in one cubic centimeter quantities occasionally, even though our regular tests may show it absent in 10 c.c. This means, of course, that there may be one bacterium of this sort in 20 or 100 c.c. of water and we merely happened to get one of these in our 1 c.c. sample.

As regards the number of bacteria found in a water sample, we cannot give such definite information. The old maximum standard of Koch, viz., one hundred bacteria per c.c. is unjust in many cases. The numbers of bacteria give us some notion as to the strength of the contamination when taken in connection with the history of the sample since collection. In order to obtain bacterial counts representing the true condition of the well water, it is necessary to make the culture plates immediately. The bacteria in water samples rapidly increase in number for a few days. Collection of large quantities of water, or icing of the samples tend to keep down the bacterial counts.

It has been claimed that the organisms which grow at 37°C represent body organisms while those that grow at 20°C represent water and soil organisms. As a matter of fact there are many organisms present which grow at either temperature—but at varying rates. We find that most of the waters which show considerable numbers of bacteria at 37°C also show other signs of contamination. While we do not place great faith in the significance of the difference between the 37°C and 20° counts, the indications are often of value. We make our 37°C counts on litmus

lactose agar incubated for twenty-four hours and our 20°C counts on ordinary standard nutrient agar incubated for forty-eight hours. Our determinations of gas formation are made in lactose broth after twenty-four and forty-eight hours at 37°C.

Our chemical work we regard as subordinate to our bacteriological findings. The chemical substances determined are none of them important for their toxic actions in the quantities ordinarily present in contaminated waters. They aid us in forming an opinion of the history of the water, the density of the contamination and its source. In the chemical examination, most of the emphasis is put upon the determination of nitrogen in its various forms because it happens that nitrogen is one of the substances most commonly present in organic matter.

The albuminoid ammonia determination is intended to give us some notion of the amount of undecomposed organic matter present. The free ammonia (ammonia present in its salts) is intended to show us the amount of organic matter undergoing the oxidation through the free ammonia and nitrite down to the final mineralized form of the nitrate. Most emphasis has usually been put upon the nitrite since it is an unstable substance which will readily oxidize to the nitrate form or in reducing conditions revert to ammonia. In either case it has been said that the presence of the nitrite indicates a state of change and hence a state of danger since the changes are presumably brought about by bacteria.

Chlorine—by which we mean the combined chlorine of common salt and calcium and magnesium chlorides—may come from the soil or it may come from urine, and other wastes. If the nitrogen forms are high and chlorine is low, it may be said that in all probability the organic matter is the product of vegetable decay, while if chlorine is also high, the presence of decaying animal matter is indicated.

Unfortunately for the simplicity of this system there are many complications and even contradictions. For example, nitrates may be reduced by galvanized pipe giving first nitrites and then ammonia. A reduction may often take place in deep wells with the production of nitrites and ammonia—in fact a high free ammonia is rather typical of deep wells. Nitrites are often found in large quantity in water from which the iron has precipitated.

In general it might be said that a high albuminoid ammonia or nitrite content give damaging evidence in the case of our Iowa waters. High nitrates with the other nitrogen factors low indicate that the pollution is an old one since complete oxidation has been accomplished. The pollution however may be one which may recur and cause trouble in the future or it may be found that well-oxidized material from a polluted source is continually being added to the water. Only an inspection of possible sources of contamination and experience with the supply can decide which of the two difficulties exists.

A well which shows recent contamination by sewage is always declared unsafe, one which shows recent contamination by surface drainage but not by sewage-like material, is held unsafe also since it only needs the presence of the dangerous fecal matter on the drainage slope to permit its being carried into the well where it may cause disease. Wells showing old pollutions are regarded as suspicious. In all cases the matter is discussed in the report and if remedies seem advisable they are mentioned.

In all cases where the collection of the sample is not made by a member of the staff, we must assume that the sample was collected and forwarded to us in the manner directed. We have carefully prepared a set of instructions which appear on our data sheet but we know that sometimes they are neglected or not even read. Any contamination which is introduced will be to the disadvantage of the supply. In extreme cases it might even be erroneously condemned. Whenever we are led to believe that the sample has been accidentally contaminated, we explain this matter and request another sample for a re-examination. In a few states the ideal method of collection of samples by agents of the laboratory and sometimes plating in the field is practiced. The expense involved has prevented us from adopting this procedure, since the cost of collecting a single sample is considerable.

We have required that all samples examined in our laboratory be submitted in our containers. Our experience with samples collected in bottles prepared outside of the laboratory has convinced us of the advisability of this requirement. We bake all our bottles for an hour and a half at 170° to 200°C. Most of the jugs and bottles prepared without the sort of apparatus which we use are found not to be sterile. They contaminate the water and the samples almost invariably give unreliable results—associated with enormously high bacterial counts. Samples of these waters afterwards collected in sterile bottles with proper care, often give bacteriological and chemical results of a very different nature.

Most of our communities were originally supplied with water by means of private wells, many of which remain in use at the present time or have been replaced by new wells, usually of the

bored and driven types. Quite often an owner or a new tenant will have doubt as to the safety of one of these private wells. When convenient, the health officer can make a personal inspection of the well and its surroundings and, if found advisable, an analysis may be recommended. Most board of health laboratories are glad to make examinations of private water supplies on the same basis as those for public use. It is recognized that an epidemic involving the neighborhood or even the entire community might have its origin in one of these private wells.

A HIGHER RECOGNITION OF THE MEDICAL SERVICE TO THE COUNTRY

At this time when the entire civilized world is engaged in a gigantic struggle to attain certain ends; a time when disease and death from wounds in battle threaten what remains of manpower, to regenerate the world and to restore the immense losses, which are beyond computation, the world must look to the forces which the medical profession can co-ordinate for the saving of what war does not destroy. With these thoughts in mind we are amazed at the apparent indifference with which the country regards the efforts of medical science to save. We cannot expect the public to think of these things. The individual when seriously sick or injured, cries out for help and cannot understand why it is not at hand in fully equipped force, but in times of safety he has "no use" for the doctor and would not under any consideration endow him with authority to prevent sickness or a voice in preventing accident. So long as the individual is well, anything is good enough for the doctor. Let him go his way quietly and keep his hands off important affairs. As the New York Medical Journal says: "Too long the government has shared the popular or rather the very egotistic attitude toward medical men. It has held itself aloof from acknowledgment of the immeasurable constructive part which this great profession should have long been taking in national affairs." "Therefore now in its stress and need, when the doctor is indispensable in the largest way, it is aghast at the inability to command the forces of the medical profession as it can its military force. It is helpless, and this, too, from its undoing."

And yet, where in all the world will be found such glorious examples of sacrifice as in the medical profession? Pasteur gave his life work for the benefit of humanity at a salary of $2500 a year. How many young medical men gave and lost their lives for the same cause with scarcely a notice from the public that benefited by it, not only in health and comfort but in financial gain. Today a great number of our foremost in the ranks of the profession in middle age are giving up their offices and large professional incomes for a salary which would scarcely pay their office rent. Many there are, it is true, who hope to profit by our country's trial, to gain that which others lose, and we are informed that some are so mean as to declare that they propose to make as much money out of it as possible. We are inclined to put these medical men alongside certain petty industries which seek exemption for every employe possible. We are reminded too of certain municipalities which frown upon health officers who are watchful, refuse with indignation to provide full-time sanitariums in times of health and comfort, but beg in piteous terms for help when typhoid fever and infantile paralysis come upon them and why there is not some means at hand to relieve them, and forget that the fault is their own. May we not hope that when this great trial is over, the general public and the government will move to co-ordinate medical activities to guard against calamities which take such toll of human life.

YOUNG PHYSICIANS, YOUR OPPORTUNITY

Never again in the history of medicine in this country will such an opportunity be afforded you to serve your country as well as the best interest of yourself.

The experience which you will gain by being commissioned in the Medical Reserve Corps and seeing active service, will be worth more to you in a professional way than you could acquire in years of practice in civil life.

The pay granted to officers in the Medical Reserve Corps is sufficient not only to cover all needs, but enable you to lay aside a comfortable balance, and while the older men in the profession have come forward, it is to the younger men that the greatest benefits accrue.

The experience will prove broadening both professionally and mentally. With this experience and the thought that you have served your country in time of need, you will return to civil life and receive the further benefits from your patients, friends and acquaintances, always accorded to one who has been so prominently individualized as this opportunity will afford you.—(American Medical Editors Association.)

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MEDICAL EDUCATION IN THE UNITED STATES

As we have indicated from time to time, there are indications that the practice of medicine is liable to undergo important changes in the near future; just what these changes may be, it is difficult to say. Something will depend on how long the war lasts and how well we are able to accommodate ourselves to possible economic changes. In agricultural communities, no very considerable change may be expected. In industrial communities, on the other hand, with the more complete development of workmen's compensation and industrial and health insurance, decided changes may be expected; how great the changes may be, will depend on the outcome of the contest between the private insurance companies and the advocates of state insurance. If the war should continue for more than a year or two, it is reasonable to believe that many public utilities now under private control, will come under municipal, state or national control or ownership. In such an event, some kind of reorganization is likely with a closer medical relationship; just what the relationship may be, cannot be foretold, but it is enough to assume a watchful care on our part that we are prepared for what the future may bring. There can be little doubt that a wider range of government service will be opened to the medical profession, with a fair compensation and a prospect for an honorable career for those who are willing to prepare themselves for the service.

The fundamental fact to be considered is a proper training in medicine and a careful study of economics. It is unfortunate that medical students qualify for practitioners without a wider range of knowledge of this branch, and that doctors know so little of national affairs and of economics in particular. The student of medicine or the young practitioner could not do better as a beginning than to read very carefully Adam Smith on "Wealth of Nations." Although written in 1776, the facts and theories set forth are as good now as they were then. Besides other elementary works, there are for Iowa men, the economic papers published in the volumes of the State Historical Society. If it is true that the medical profession does not rank with the educated members of other professions, it is because our training has been too much limited to technical knowledge and not enough to that broader culture which distinguishes the educated man of the world.

The reproach attached to medical education in the United States has nearly passed. The present unsettled state of affairs the world over will no doubt affect educational institutions, but for the safety of civilization, the most diligent efforts should be made to maintain their efficiency, particularly medical institutions, both for the welfare of armies and the general public as well. As it appears now, medical institutions are settling down to work in a rather definite way. A certain number of medical colleges have a fairly good reason for existence in preparing undergraduates for useful careers in medicine if supplemented by a year of hospital work, but are in nowise equipped for graduate instruction. For advanced work, several universities with liberal endowment and connected with great clinics, are now or in the near future will be fitted to supply a need which formerly was supplied by European universities. Chicago, New York, Philadelphia, Boston, Baltimore, and perhaps the most important of all, the University of Minnesota with the Mayo Clinic, will constitute centers for graduate work, filling out and extending the work of the smaller universities either by definite post-graduate fellowship work or by short term courses for the benefit of general practitioners. The definite settlement of the integral relationship of the Minnesota University and the Mayo Foundation, under the administration of President Burton, who recently came to the University with an enthusiastic appreciation of the newer needs and demands of medical education, will probably place the University of Minnesota in

the front ranks among graduate institutions. The endowed Fellowship courses will be a most important factor in establishing a stability not otherwise to be obtained.

There are now short clinical courses at the Mayo Clinic that may be utilized by graduate students or physicians.

We append a schedule of work.

8:00 A. M. to 1:00 P. M.—Surgical Clinics daily at St. Mary's Hospital.

Room 1. C. H. Mayo.
Room 2. W. J. Mayo.
Room 3. E. S. Judd.
Room 4. D. C. Balfour.
Room 5. E. S. Judd.
Room 6. W. E. Sistrunk.

Orthopedic Clinic on Thursdays—M. S. Henderson and H. W. Meyerding.

Surgical Clinics at the Colonial Sanitarium.

Surgical Clinics at the Colonial Sanitarium

Owing to limited space in operating rooms at the Colonial, it is requested that not more than eight visitors attend the clinics there. Arrangement may be made with the clerk of the Surgeons' Club.

8:00 A. M. Diseases of the nose, throat and mouth—Gordon B. New, daily.
Orthopedic Clinic—M. S. Henderson and H. W. Meyerding, daily except Mondays and Thursdays.
Diseases of the chest—Samuel Robinson, Mondays and Thursdays.

11:00 A. M. Diseases of the nose and throat—Justus Matthews—Tuesdays, Wednesdays and Fridays.

1:00 P. M. General surgery—James C. Masson, daily.

3:00 P. M. Diseases of the eye and ear—Carl Fisher, daily except Saturdays.

CLINICAL AND PATHOLOGICAL DEMONSTRATIONS, ASSEMBLY ROOM, CLINIC BUILDING

5:00 P. M. Mondays: Roentgenographic Diagnosis—R. D. Carman and staff.

5:00 P. M. Tuesdays: Clinical Diagnosis of Diseases of the Alimentary Canal, etc.—C. Graham, G. B. Eusterman and staff.

5:00 P. M. Wednesdays: Clinical Diagnosis of Diseases of the Thyroid, Heart and Esophagus—H. S. Plummer and staff.

5:00 P. M. Thursdays: Diseases of the Blood and Spleen—H. Z. Giffin and staff.

5:00 P. M. Fridays: Clinical Diagnosis of the Disease of the Genito-Urinary System—W. F. Braasch and staff.

DAVENPORT THE MEDICAL CENTER OF IOWA

The less favored cities of Iowa will no doubt feel a degree of envy that Davenport has made such intellectual progress and received such high recognition. The contributions of chiropractors to science and public welfare, are well known. Their helpfulness in forwarding health and physical conditions of our soldiers in the trenches and in camp are also well known. Their freedom from selfish purposes was plainly shown in a declaration of Professor Palmer before a Senate Committee, when he said "We are doing the work of Our Lord Jesus Christ." It was an impressive moment when the good man with his eyes turned heavenward, and hands clasped, made this famous declaration.

It is gratifying to know that the people of Davenport recognize their great men. It is reported that Professor Palmer has been elected a member of the Commercial Club; not only this but the club has made liberal appropriations for the entertainment of the distinguished gentlemen who are to honor that progressive city in a "home coming."

To some minds it would seem inconsistent that the Mayo Foundation should be called upon in the stress of infantile paralysis outbreak instead of the Palmer Foundation; but with a closer vision it will be seen that the latter will render its great service in restoring weakened and paralyzed limbs at $2 per.

It is a painful surprise to us to know that twenty members representing the medical profession have resigned from the club. It must bring sorrow to the hearts of some who have in mind the days of stress and danger, and knew not where to turn save to the family physician upon whose honor and self sacrificing willingness to serve was their recourse, that these doctors preserve the sacred traditions of the profession and are not willing to sell their birthright for a mess of pottage and $2 per. We trust that Davenport will appreciate the distinction she enjoys, and that her citizens will put an extra thread in the waistcoat's button when they point out the beautiful illuminations which may be seen every night

on their streets glowing with beautiful traditions of a distinguished past.

It will be a comfort to the people of Davenport to know that outside medical talent is watching with friendly solicitude the misfortune that has come upon them, and stand ready with willing hand—and without money reward—to help, we presume, with infallable remedies.

Suggestions for Treating Infantile Paralysis

The prevalence of infantile paralysis at Davenport, Ia., and a letter of inquiry from Dr. E. T. McGuire of Mead, Nebraska, prompt me to repeat in substance the treatment I recommended in The Medical World a year or so ago. It is hard to understand the general pessimism of the medical profession on this subject, for, the disease is just as amenable to efficient therapeutic measures as are any of the acute infectious diseases with which we have to deal.

The indications for treatment in the first stage of the malady are as follows:

1. Isolation of the patient in a cool, well ventilated room.
2. A thorough cleanout.
3. Equalization of circulation.
4. Reduction of cerebrospinal congestion and control of nervous symptoms.

I combine the eliminants with the circulation equalizers. Thus, for a patient of five I give this prescription.

Calomel and phenolphthalen 1/10 gr. each, 10 tablets; defervescent compound No. 2, 10 granules; hyoscyamin, 10 granules; calcium sulphide, gr. 1/6, 10 granules; sig. one of each, once an hour, to effect, or until all are taken. A few hours after the last dose give two or three doses of salithia, at hour intervals. Also flush colon with normal saline solution.

After the patient is well cleaned out I order the defervescent compound as needed for fever and continue the calcium sulphide in ½ grain doses every two or three hours, and the salithia as often as required. I also prescribe Merrell's ferro-salicylate, a teaspoonful every three hours. This is a standard remedy, and its effect on this disease is much better than some of the remedies that have been proposed by those considered highest in authority.

To control the cerebrospinal congestion, gelsemium is the best remedy. I use it in this combination:

Specific tincture gelsemium, dr. ½; strontium iodide, dr. 1; strontium bromide, drs. 2; elixir lactated pepsin, q.s. ad, ozs., 3.; m. sig. teaspoonful every one to six hours or often enough to control the symptoms.

If the above plan is efficiently applied the disease can usually be controlled and there will be very few cases of paralysis and no deaths.

W. A. Marner, Miles, Ia.

These suggestions are excellent, and we hope they will be taken to heart by the readers of the CLINICAL MEDICINE. Doubtless, many think they can improve upon the method of treatment which Doctor Marner outlines. If so, the privilege is theirs. We have made a suggestion in an editorial upon poliomyelitis which we are publishing in this issue, page 706. In a nutshell, it is this: For the prevention of poliomyelitis, the physician should use oil sprays of dichloramine-T in 2 per cent. solution. The solvent is a mixture of chlorinated eucalyptol and chlorinated paraffin oil. This antiseptic was introduced by Dr. H. D. Dakin, whose name is now known to every physician. The new oil-soluble antiseptic promises to be of the utmost value, not only in poliomyelitis, but also in meningitis, diphtheria, scarlet fever, measles, and the various acute infectious diseases finding their origin and mode of transmission in the nasal and pharyngeal mucosa.—Editor, The American Journal of Clinical Medicine.

TO PREVENT WASTE OF DRUGS AND BIOLOGIC PRODUCTS

The Committee of Public Safety for Pennsylvania is entering upon a campaign of conservation of pharmaceutical supplies and biologic products. There is a general impression that an unnecessary waste of these important agents exists, notwithstanding the high prices. The pharmacists who have an eye to loss and deterioration can generally be depended upon, but physicians and hospitals are often careless and if the high price can be charged to the patient, nothing more is thought about it. It no doubt often happens that a considerable quantity of certain drugs are prescribed when it is quite certain that more or less will be thrown away; this should not be. Every physician should think about it. In hospitals, waste of biologic products, gauze and suture material, is the common thing. Little thought is given to the immense demands which the future is sure to bring. The feeling seems to be that if the patient can pay for it and charitably inclined persons are willing to contribute to the expense, no serious attention need be given to the matter even if a few more pieces of gauze are used or a few more tubes of catgut or

a few more packages of serum are wasted. Physicians and hospital superintendents should consider waste of these products as seriously as those who are dealing with food products, not only to save present loss but future shortage.

MEDICAL AND SURGICAL RESEARCH IN WAR TIME

The British Medical Journal is devoting much space to co-ordinating research work which is being done in England and France, particularly relating to conservation of men at the front and in preventing disease. In the last September number of the Journal, we called attention to a series of papers in the June 2nd issue of British Medical Journal on the development of "British Surgery at the Front," which were too extensive for adequate review, and we would therefore suggest that medical officers in the United States service read these papers with great care for it will be found that text-book references are wholly inadequate to the needs of actual service.

In later numbers, other research work of equal importance is presented, showing how little prepared the profession was for the great medical problems the war has developed. The Royal Army Medical College had laid the foundation for an inquiry into the various problems of military hygiene and pathology. This organization had originally been formed for civilian research and was at once turned aside for the solution of medical war problems. One of the first centers of joint investigation for war purposes was the laboratory at Boulogne presided over by Sir Almroth Wright. Another was the co-operation between the Army Medical Department and the Research Committee on Cerebro-spinal Fever, under the direction of Lieut. Col. Nurvyn Gordon at the Central Cerebro-Spinal Fever Laboratory in England, and the Canadian under Captain Ellis with the expeditionary forces. Again the enteric group of fevers through the joint action of the Army Medical Service and the Research Committee in Nobile Field Laboratory under the direction of Prof. Dreyer both at Oxford and at Wimereoux whose standardized technic for serum diagnosis has made it possible to collate the results of workers in every area.

Another instance is the work of Sir David Bruce as chairman of the War Office Committee on Tetanus, and Prof. C. J. Martin, and Major Rowland who lost his life from contracting the disease he was studying (tetanus). All this is brought out in the June 23rd British Medical Journal in a paper by Prof. F. W. Andrews of the University of London.

The biochemical and bacteriological side of the work is well brought out by a paper by H. D. Dakin, D. Sc. F. R. S., whose studies have made his name famous.

Trench Fever and its Allies was carefully studied by Col. Sir. W. P. Herringham who publishes his investigations in the same journal.

Another of the various subjects considered is the work in the United States of Flexner and Noguchi on poliomyelitis, especially in New York State,—the work of Rosenow is too recent to appear in this review.

The Health of Munition Workers is very fully reviewed. Much speculation has been indulged in as to the health of munition workers, and many statements made which an investigation fails to substantiate. No sufficient data as to conditions of health had been secured before the war, another evidence of the disregard of efficiency which existed before the beginning of the great evolution.

Further evidence of the series of errors from a disregard of medical control and autonomy in a war which is to a certain extent a "medical war" as expressed by Professor Blanchard, was the prevalence of malaria in the campaign in Macedonia among the French troops which suffered more than the English. Professor Blanchard expressed the hope that the autonoma recently granted to the French Army Medical Service may in the future prevent the repetition of the errors for which that service was very far from being wholly responsible. Some apprehension has been expressed in relation to prevalence of malaria on the return of troops from malarial districts, and a commission has been established under the chairmanship of M. Laveran, to draw up a plan of campaign for the supervision of convalescent camps for these troops.

PROFESSOR EMIL VON BEHRING

Emil von Behring was born at Hansdorf, in Deutsch-Eylau, on March 15, 1854. He received his professional education at the Army Medical College, Berlin, took his doctor's degree in 1878, and passed the state examination in 1880. He served as a medical officer in the Prussian army, first at Posen, then at Bonn in 1887 as staff surgeon; in the following year he was attached with the same rank to the Army Medical College at Berlin. In 1889 he was appointed assistant at the Institute of Hygiene, and in 1891 he was transferred to a corresponding post in Koch's Institute for Infectious Diseases. In 1894 he received the title of "Professor" in recognition of his scientific work, and was appointed to the

chair of hygiene in the University of Halle; in the following year he accepted a call to Marburg, where he held the post of professor and director of the Institute of Hygiene. In 1895 the title of Medical Privy Councilor was conferred on him.

Behring's name is best known to the medical world in connection with the introduction of the antitoxin treatment of diphtheria. The idea of using the serum of immunized animals to combat toxins produced by pathogenic bacteria had presented itself to several workers in France and Germany. In December, 1890, Behring and Kitasato, then working in Koch's Institute, made the memorable anouncement: "Our researches on diphtheria and tetanus have led us to the question of immunity and cure of these two diseases; and we succeeded in curing infected animals and in immunizing healthy animals, so that they have become incapable of contracting diphtheria or tetanus."

After fully testing the diphtheria antitoxin in man, Behring in 1893, in conjunction with Kossel and Heubner, recorded the first cases treated with it. In 1894 he began to produce the new remedy on a large scale. The results were so good that the antitoxin treatment soon superseded every other. For his work on serum therapy the Paris Academie de Medicine awarded Behring a prize of £1,000, and from the Institute of France he received another of £2,000. Roux, of the Pasteur Institute, who was with Yersin, made researches on the diphtheria poison in 1889, and presented to the International Congress of Hygiene, held at Budapest in 1894, the results of an extensive experience of antitoxin; he also was awarded a prize.

The death of Prof. von Behring calls to our mind perhaps the most interesting chapter in the history of medicine. For forty years Pasteur had been clearing up the mystery surrounding one infectious disease after another; still there remained one unconquered—diphtheria. One day when nearly seventy years old, Pasteur received these lines: "You have done all the good a man could do on earth. If you will, you can surely find a remedy for the horrible disease called diphtheria. Our children, to whom we teach your name as that of a great benefactor, will owe their lives to you. A mother." Pasteur in failing health, hoped he would live to meet the disease as he had rabies. In his laboratory, two pupils, Dr. Roux and Dr. Yersin, were at work on this disease. In their first paper on the subject entitled "A Contribution to the Study of Diphtheria," they said "Ever since Bretonneau, diphtheria has been looked upon as a specific and contagious disease; its study has therefore been undertaken of late years with the help of the microbian methods which have already been the means of finding the cause of many other infectious diseases." Other scientists were busy, Klebs, a German, discovered the bacillus of diphtheria in 1883 by studying the characteristic membrane, and another German, Loeffler, soon after isolated the germ. Roux and Yersin discovered the toxin, and now came Behring, a German scientist, and Kitasato, a Japanese physician, with the discovery of the antitoxin.

It is said that Pasteur at his old home in Arbois, followed in every detail the development of the discoveries in relation to diphtheria and it was given to this great master to see the fulfillment of every promise of his life work and to receive the acclaim of all the world.

POLIOMYELITIS IN DAVENPORT

The epidemic of poliomyelitis is practically at an end. Dr. Rosenow spent five weeks with us, treating and carefully studying about sixty cases in this city and surrounding territory, including Rock Island and Moline. In no case did the serum have the slightest untoward effect, and every case was checked just as soon as the serum was administered. All but moribund cases recovered, either without or with but slight paralysis. No case made progress for the worse after the serum was given.

A preliminary report of Dr. Rosenow's work in Davenport appeared in the Journal of the A. M. A. of September 29, to which he will surely add in a short time. The following, however, will bear repetition, and cannot be said too emphatically: Early diagnosis is the keynote of success; diagnosis even before paralysis has appeared. The spinal puncture, with the presence of cells and globuline in the spinal fluid, will make a diagnosis absolutely certain before the appearance of paralysis. It would be asking too much to expect every member of the profession to be ready to apply these diagnostic methods. Hence, in the presence of an epidemic, it would seem absolutely necessary that the profession of a given community should unite on some one man to make the spinal puncture and the necessary chemical and microscopic examination. Unless this be done, it is to be feared that cell destruction, in the great majority of cases, will have progressed beyond recovery before the serum is administered.

The administration of the serum into the vein of a fat baby requires a very high degree of skill, which not all may hope to attain. Hence, it would be well to select that member of the profession of a given community who possesses this skill in the highest degree. As matters now stand, the profession must realize that the serum will be efficient only when administered early in the disease.

During his five weeks in Davenport, Dr. Rosenow endeared himself to the profession of the three cities.

He not only traveled long distances in the night to administer the serum, but made countless subsequent visits to note its effect. It is only fitting that a word of praise should be said in appreciation of the work of his most efficient technician, Miss Dunlop, who shared all the hardships of his work while in Davenport. L. W. L.

NEW DAY SCHOOL FOR DEAF CHILDREN AT DUBUQUE

Parents urged to send young deaf children to this school.

Parents of young deaf children in the eastern part of the state will be interested in the announcement that a day school for the instruction of these children has been established at Dubuque, as a part of the public school system and is now in active operation.

The principal is Miss Mary J. Millea, a highly trained specialist in teaching deaf children. She is a graduate of the special training school for teaching deaf children at Milwaukee, Wis., and has had several years' experience as a teacher of the deaf in Platteville, Wis.

The Dubuque day school has already a number of children from five to ten under instructions. Parents of young deaf children who wish to send their children to this school, thus giving them an unusual educational opportunity, may communicate with either Miss Mary J. Millea, Jackson School, Dubuque, Iowa, or with Dr. H. G. Langworthy, who will be glad to correspond and give them any assistance possible.

As will be recalled, a campaign for a new state law authorizing the establishment of day schools of this character was passed at the last session of the state legislature in which the Conservation of Vision and Hearing Committee of the State Medical Society played no inconspicuous part. As state aid of eleven dollars per month for each child is provided in the statute, the medical men of the state will be furthering a good work by calling the attention of parents to the opportunity which Iowa now affords for special instructions to this class of children.

THE APPOINTMENT OF DR. F. L. HOFFMAN OUR NATIONAL COMMITTEE ON STATISTICS

In anticipation of the social and economic problems likely to result from the German-American War, the National Council of Defense, through its Advisory Commission on Labor and Welfare—Mr. Samuel Gompers, chairman—has appointed Mr. Frederick L. Hoffman, statistician of the Prudential Insurance Company of America, chairman of the National Committee on Statistics and Information. The Prudential has offered the resources of its statistical department to the Advisory Commission, and subcommittees will shortly be organized in anticipation of the demand for trustworthy statistical and other information required by the national committees on wages and hours, women in industry, mediation and conciliation, industrial accident prevention, etc. The plan is to inaugurate at once a national statistical service, whereby the state of the nation regarding health, physical and social well-being, sickness and accidents in industry, unemployment, etc., may be presented with scientific conclusiveness from week to week, for the information of the National Council of Defense and the public at large.

Dr. Frederick L. Hoffman, statistician of The Prudential Insurance Company of America, has just completed an extended trip through Louisiana, in the private car of the State Board of Health, with Dr. Oscar Dowling, the president of the board; Dr. W. H. Seemann, President Louisiana State Medical Society; and Dr. H. C. Carter, senior surgeon of the United States Public Health Service; in the furtherance of the state-wide campaign for malaria eradication, improved accuracy and completeness in birth and death registration, and public health matters generally. The principal stops made were: New Orleans, New Iberia, Lake Charles, De Ridder, Shreveport, Monroe, Tallulah, Baton Rouge and Alexandria. Some twenty or more public meetings were held, including medical societies, high schools, churches, etc. A special effort was made to reach the negro population, in view of the fact that the death rate among that element of the Louisiana population, from all causes, as well as from malaria, is decidedly excessive. It is anticipated that as the result of the state-wide education, material progress will be made in the direction of malaria eradication and the required improvement in the accuracy and completeness of vital statistics, so as to qualify at least a number of parishes for admission to the United States registration area. Sanitary surveys were made of a number of important sections and it is quite probable that the results of the trip and matters and data pertinent thereto will be presented in the form of an address on the occasion of the forthcoming meeting of the American Public Health Association in New Orleans.

WAR HONOR FOR BOSTON PHYSICIAN

President Poincare of France has conferred upon Dr. Ralph R. Fitch of Boston the distinction of being made knight of the Legion of Honor. This is in recognition of his work in the Franco-American Hospital at St. Valery en Caux, France. Dr. Fitch, who is a graduate of the Boston Latin School, received his degree of M.D. from the Harvard Medical School in 1903. After serving in the Massachusetts General Hospital and the Children's Hospital, Dr. Fitch associated himself with Dr. Weigel of Rochester, N. Y., well known for his work with x-ray. In December, 1914, Dr. Fitch offered his services to the

Allies and was sent to a hospital at Yvetot, France. In August, 1915, he established a hospital at St. Valery en Caux, and became its head physician.

—(Boston Medical and Surgical Journal.)

THE DOCTOR'S CONTRIBUTION

In this world's war, your service is absolutely essential.

The medical officer bears the same relative position in war as in peace in that he is a conservator of health and life.

Through his skill, thousands of men receiving slight casualties, are returned to the fighting force, thus conserving the physical strength of the army.

In Base, Field and Evacuation Hospitals, doctors are as essential as in civil institutions, where the sick and injured are cared for.

As regimental surgeons and on transports and in the sanitary corps, must the government have doctors if we are to terminate this war successfully.

Your contribution to your country at this critical time is **your service** which you can give for the period of the war as an officer in the Medical Reserve Corps. That your country needs you, is best answered in that she is calling you **now.**

The fighting forces are constantly expanding and such expansion calls for additional doctors and even with the troops now in training and under mobilization (about two million) the surgeon general has not enough doctors to fill the requirements.

Secure an application blank at once; fill it out and present it to your nearest examining board. Do not live to regret that you did not have a part in your country's great struggle for democracy which means Liberty.—(American Medical Editors Association.

PUBLIC HEALTH

Conducted in the Interest of the Local Health Officials of Iowa, for the Conservation of Health and the Prolongation of Life

By DR. MARK F. BOYD, Iowa City

Local health officers are urged to present for discussion Iowa public health problems coming to their attention.

SUPERVISION OF PUBLIC WATER SUPPLIES BY THE HEALTH OFFICER

Mr. J. J. Hinman, University of Iowa

(Copy of this paper is already in the editor's hands)

(Among Original Papers)

GARBAGE COLLECTION IN CLINTON

In "The Accelerator" for September, 1917, published by the Clinton Commercial Club, Dr. H. R. Sugg, the Health Officer of Clinton, describes the operation of garbage collection in Clinton. Householders are required to provide themselves with proper cans with tight covers, large enough to hold three days' accumulation. Garbage is first drained and wrapped in paper before being deposited in the can. Very little difficulty has been experienced in securing the accomplishment of this feature. People living in blocks without alleys are required on the days of collection to place the can on the curb in front of the property. Four zinc lined collecting wagons are in operation, which for the most part make collections twice a week.

During July data were collected concerning the various details of collection. The average time required of all teams to go to the dump was twenty-three minutes; an average of nineteen minutes was spent at the dump; and twenty-three minutes was required to return from the dump to the point of collection. The average weight of each load was 924 pounds and the average number of receptacles emptied each day was 660. From the four districts covered by the four wagons, ninety-seven tons of garbage was collected during July. This is almost ninety-seven tons more than ever before. The second district is third in the number of receptacles emptied but first in weight of loads and almost as much as the next two highest districts combined. From the July data, Dr. Sugg estimates that between June 15 to November 1, during which time bi-weekly collections are made, a total of 436 tons will be collected.

The cost of maintaining the system over and above the cost of equipment is $280 a month, representing the wages paid the four collectors who are required to furnish teams. Dr. Sugg estimates the system is costing the city $1.25 per family a month, as against the $.50 per month per family charged by private collectors.

The garbage collected is used to fill in low land along the river front.

Dr. Sugg considers that the present needs of Clinton in this respect include two more garbage wagons, at least three refuse wagons, a year round collecting service, and two more conveniently located dumps.

THE SHORT COURSE FOR HEALTH OFFICERS

The first short course for Health Officers of Iowa was held at the State University, September 19-22 inclusive. Thirty-five health officers were in attendance. These men unanimously adopted a resolution requesting the State Board of Education to make the short course an annual event. With certain exceptions the program was given as announced, the changes made being due to the inability of certain of the out of town speakers to be present at the time scheduled. It is the desire of the university officials to make the short course an annual event and to improve future sessions a circular letter has been sent those in attendance requesting certain criticisms and suggestions whereby the course may be improved. Dr. Boyd would be glad to receive sug-

gestions from any of the health officers of the state on special topics which would be of help if presented at the next short course.

IOWA MEDICAL MEN IN THE WAR

We are requesting such information of Iowa Medical Officers in the Army and Navy, for the Journal, as may be consistent with the best interests of the service.

We are informed that Captain J. W. Osborn has been assigned to the Base Hospital, Fort Riley.

Major Chas. E. Ruth of Des Moines, has been assigned chief of the surgical section, base hospital, Camp Dodge.

Capt. John H. Peck of Des Moines, has been assigned for duty as a member of the board of medical officers for examination for tuberculosis at Camp Dodge.

Lieut. C. C. Cady of Harris, has been ordered to Ft. Leavenworth for duty.

Lieut. Albert E. Acker of Ft. Dodge, has been ordered to Camp Greenleaf, Ft. Oglethorpe.

Lieut. James A. Downing, Des Moines, has reported for duty in the otolaryngology, section of surgery at Camp Dodge.

Lieut. Wm. F. Brinkman, Des Moines, has reported for duty at Camp Lewis, American Lake, Washington.

Lieut. Chas. T. Maxwell, Sioux City, has been ordered to Ft. Meyer, Va., for duty with the artillery.

Lieut. Eugene R. Lewis, Dubuque, has been summoned to Washington for duty in the Aviation Section Signal Corps.

Lieut. Jesse L. Saar, Summitville, has been ordered for duty at Camp Funston.

Lieut. Louis L. Bowie of Milo, has been ordered to report for duty at Camp Grant, Rockford, Ill.

Lieut. Aaron C. Conway of Marshalltown, has been ordered from the M. O. T. C. at Ft. Benjamin Harrison for duty at Camp Grant.

Capt. John W. Shuman of Sioux City, has been ordered to Camp Greenleaf, Fort Oglethorpe, for duty.

Capt. Thos. A. Burcham of Des Moines, has been ordered from Camp Mills to Cornell Medical College for instruction in military rœntgenology.

Capt. Chas. L. Marston of Mason City, has been ordered from Fort Oglethorpe to Chickamauga Park for duty.

Lieut. Maurice C. Hennessy of Council Bluffs, has been ordered to Mineola, L. I., from Fort Riley.

Capt. Benj. G. Dyer, Ames, has been ordered to Camp Dodge for duty with the otolaryngology section of surgery.

Capt. Geo. B. Wood of Sioux City, has reported at Camp Meade for duty in the otolaryngology section of surgery.

Some of the officers from Iowa in the Medical Reserve Training Camp at Fort Riley have been ordered to report to various points: Capt. Geo. E. Skinner, Cedar Rapids; Lieuts. Clifford L. Bartlett, Clinton; Prentiss B. Cleaves, Cherokee; John R. Christensen, Eagle Grove; J. W. Caldwell, Steamboat Rock; Wm. F. Brown, Keokuk; and Harry L. Bridgman, Columbia, have been ordered to Camp Bowie, Fort Worth, Texas; Lieut. Paul F. Guernsey of Bloomfield, to Deming, N. M.; Lieut. Geo. S. Bawden, Davenport, to Camp Funston.

Capts. Arthur S. Pace of Toledo, and F. H. McCabe of Wellman, have been ordered from the M. O. T. C. Ft. Riley to Camp Funston.

The following have been ordered to Fort Oglethorpe for instruction: Lieuts. A. C. Strong, Burlington; Meredith Mallory, Des Moines; Harry C. Nichols, Carson; Ira J. Gibson, Fontanelle; Chas. B. Bentz, Sioux City; Emery W. Lehman, Des Moines; Thomas F. Thomson, Charter Oak; Garnett S. Felt, New Providence; and Samuel W. Hartwell, New Sharon.

Camp Dodge has received from Fort Riley for duty: Capt. Alfred S. Price, Des Moines; Lieuts. Roy C. Alt, Cedar Rapids; John W. Elder, Des Moines; Leo C. Kuhns, Chariton; Joseph L. Ruyavitz, Duncombe; Royal C. Danley, Hamburg; Charles L. Jones, Gilmore City; Lawrence J. Kaasa, Lake Mills; Walter E. Anthony, Ottumwa; Wm. H. Clarey, Prescott; and Stephen B. Rybolt, Troy Mills.

We have a letter from Dr. Frank Graham Murphy of Mason City, to the effect that there appeared in the Journal of the American Medical Association, a notice of his having been commissioned for service in the army. Dr. Frank Graham Murphy states that he did not make application for commission and has not received a commission, and desires to correct this misinformation by saying that the commission was issued to Dr. Frank George Murphy, whose name does not appear in the directory. We have no information in regard to the antecedence of Dr. Frank George Murphy, but are able to state that Dr. Frank Graham Murphy still holds his place in the Park Hospital at Mason City, and has no intentions, at present at least, for changing his relationship.

Dr. Robert Armstrong of Pittsburg, Pennsylvania, has taken up the work of Dr. John W. Shuman of Sioux City who has entered the medical service of the Army. Dr. Armstrong has been doing internal medicine and rœntgenology, and is thoroughly qualified in this line.

We have received a communication from Dr. R. H. Whalen of Tama, Iowa, that he has been appointed physician and surgeon to the Sac and Fox Indian Agency of Iowa; Vice, Dr. Ben Thompson, retired.

The Journal of the American Medical Association to be Devoted to War Purposes

The House of Delegates through a vote by mail, agreed unanimously to convert the Journal of the American Medical Association into a war publication, for an indefinite period. The purpose of this

is to keep the medical profession in touch with military affairs both at home and abroad. There are many things that must necessarily come up in times like these, when the medical profession becomes the important factor in war success, that should be as intimately known to the profession as possible, and for this reason the Board of Trustees with the consent of the House of Delegates, have concluded during the remainder of the war to use the Journal as an exponent of war medical policy. We feel that the profession will be fully in sympathy with the patriotic spirit of the Board of Trustees.

To Officers of the Medical Reserve Corps U. S. Army Inactive List

Word received from the Surgeon General of the U. S. Army, conveys the information to officers of the Medical Reserve Corps of the United States Army, inactive list, that assignment to active duty may be delayed, and that they are advised to continue their civilian activities, pending receipt of orders. They will be given at least fifteen days' notice when services are required.

The following is the report of a recent meeting of the Iowa Jungle Club:

Iowa's Jungle Club Gathers at Camp Mills—Spirit Born in Philippine Swamps Going Abroad With Rainbow

By R. C. Burritt

Camp Mills, Long Island, N. Y., Oct. 6—When an Alaska miner who had made a dash to Frisco to "join up" for Uncle Sam, and hearing that the Forty-second Infantry division, commanded by Gen. Mann, would be the first to the Western front, walked into camp and enlisted with the One Hundred and Sixty-fifth Infantry from New York, the pole to pole arch of the famous rainbow was complete.

But, far more picturesque than the soldiers of fortune whose pole to pole travels have ended with enlistment at Camp Mills, is a club of officers from the prosaic corn belt in Iowa. Their existence was brought to light by the visit to Camp Mills today of the adjutant general of Iowa, Guy E. Logan, who came to pay his respects to Col. Ernest R. Bennett.

About the Club

No sooner had Adjutant General Logan arrived than Col. Bennett sent notices that the Jungle Club would meet. Ten officers heard the call. With General Logan eleven Jungle clubbers were grouped tonight around the flickering light of a camp fire behind the quarters of Major Guy S. Brewer.

The Jungle Club came into being nineteen years ago. One bright May day in 1898 the Fifty-first Iowa entrained at Des Moines for San Francisco, where the regiment embarked for the Philippines.

Ninety-four days of every kind of weather known to the Pacific elapsed before the transport reached Cavite, where the regiment disembarked under fire. It stayed under fire for a long time afterwards.

Camp Stools Taboo

In the jungles of the Philippines there was born the Jungle Club, formed to promote good fellowship among officers. Wherever the regiment moved, there, too, went the Jungle Club. It was the custom of the members to hold each meeting around a camp fire, with the officers seated on logs. Camp stools were taboo.

During the insurrection the Jungle Club officers took part in at least twenty-one battles. Most of them escaped serious injury, and all returned to Iowa to take up the humdrum occupations of civil life. With them returned Philip Jones, the cook of Company K, from Corning.

In all the years that have fled since then, the Jungle Club has been kept alive. Fired with the desire to keep alive the spirit of the national guard, the Jungle clubbers were all preparedness advocates. They continued with their commands, devoting much of their time to the Fifty-first, which was mustered out as the Third Iowa Infantry.

It's an efficient organization, now known as the One Hundred and Sixty-eighth Infantry. But the huskies from the corn belt will tell you that the regiment stands as high as it does today because the Jungle clubbers have stayed with it. And they have stayed because of the bonds cemented around camp fires in the jungles of the Philippines.

The logs they sat on tonight were imported. None could be obtained hereabouts, and some had to be obtained, of course, for the meeting with Logan as the guest of honor.

Sitting over there is Colonel Bennett, a coal operator from Des Moines with a considerable fortune, they say. Back in the Philippines they called him a "shave tail"—he was a first lieutenant. There's Lieut. Colonel David S. Fairchild, now sanitary inspector of the division, promoted recently from the position of regimental surgeon. Laughing at his side is Major Wilbur S. Conkling, the regimental surgeon. Conkling from Des Moines, Fairchild from Clinton, Ia., are two of the best known surgeons of the state.

Some of the Others

When the Iowans were chasing the brown men in the islands, Fairchild was the regimental surgeon and Conkling his assistant. Lieut. Col. Matthew A. Finley of Council Bluffs is telling of his experiences as a second lieutenant in the Old Fifty-first—a mere broncho then was Finley.

On another log are Majs. Emory C. Worthington, a public accountant from Des Moines; Claude M. Stanley, a Corning attorney; Guy S. Brewer, president and general manager of the big Flynn Dairy Company. Worthington was a captain and the other majors, corporals in the Philippine campaign. Capt. Edward Fleur of the machine gun battalion, who ran a furniture store back in Iowa, and Second Lieut. Dan S. Newquist, an insurance salesman, complete the party.

When the Iowa Infantry marches into Berlin with the Rainbow—you can't tell 'em any different out

here—there'll be a proud kid in headquarters company.

He'll be wearing around his neck a medal given by Napoleon to his great-grandfather. His name is Harold Asher, he lives in a suburb of Des Moines and he's just eighteen years old. Asher's great-grandfather, so Asher's mother declares, was one of Napoleon's orderlies and carried messages between Napoleon and Josephine.

BOOK REVIEWS

The Roentgen Diagnosis of Diseases of the Alimentary Canal. By Russel D. Carmen, M.D., Head of Section on Rœntgenology, Division of Medicine, Mayo Clinic; and Albert Miller, M.D., First Assistant in Rœntgenology at the Mayo Clinic. Octavo of 558 Pages With 504 Original Illustrations. W. B. Saunders Company, 1917, Philadelphia and London. Cloth $6.00 Net; Half Morocco $7.50 Net.

The authors after calling attention to the efficient and practical aid to gastro-intestinal diagnosis, state that; "Our intent has been to select and arrange in a systematic manner those things which seem not only to be true but worth while, and especially those which we have verified by experience with a large amount of material."

The first three chapters deal with Apparatus, General Technic and Interpretation.

Chapter four relates to the technic necessary for an examination of the esophagus, normal and diseased conditions, including plates illustrating cardiospasm, carcinoma, diverticulum, cicatricial strictures, foreign bodies, etc.

Chapters five and six are devoted to the technic of stomach examinations (1) preparation of the patient, (2) administration of six hour meal, (3) rœntgenoscopic examination, (4) rœntgenography. First comes the different conditions of the normal stomach freely illustrated by cuts; then the abnormal stomach, hour-glass stomach; irregularities of gastric outline; alterations of tone; disordered motility, etc.

Chapter eight considers some difficult problems in relation to gastrospasm, etiology and differentiation. It is stated "Remotely reflected spasm is likely to be absent at a second examination. It almost invariably disappears after the administration of an antispasmodic to physiologic effect."

In relation to cancer of the stomach, the authors hold that "The rœntgen rays take precedence over all other methods." It is said "In the Mayo Clinic 95 per cent. of gastric cancers have given distinct rœntgenologic signs of their presence." Then follows the evidence in argument methods of determination rœntgengram plates and illustrative cases.

The questions relating to syphilis of the stomach are considered in chapter eleven, and various benign tumor-producing lesions in chapter twelve. Then follow two chapters on rœntgenologic diagnosis of ulcer of the stomach.

One of the first points is the ever recurring discussion of the relation of gastric ulcer to cancer of the stomach. Wilson and McDowell regard it as probable that gastric cancer rarely develops except at the site of a previous ulcerative lesion of the mucosa. Therefore the early and accurate diagnosis of gastric ulcer and the importance of rœntgenologic study considerably exceeds that of customary clinical methods. Four classes of gastric ulcer are distinguished: (1) small, exceedingly shallow mucus erosions and minute slit-like ulcers, (2) penetrating or callous ulcers with relatively deep craters, (3) perforating ulcers with or without the production of an accessory cavity, (4) carcinomatous ulcers. The methods of study and the signs are given with much detail, including many illustrative cases.

Many other conditions of the stomach, the small and large intestines, are considered, which we have not space to refer to, which fill several chapters. We can only say that the latest information is presented, drawn from a very large amount of material relating to abnormal conditions of the intestinal tract.

The work is a masterpiece of book making, printed on heavy paper. The illustrations are clear and distinct. We can most cordially recommend the book to those interested in intestinal diseases, as fulfilling a requirement in diagnosis.

SANITATION FOR MEDICAL OFFICERS

By Edw. B. Vedder, M.D., Lt. Col., Med. Corps, U. S. A. Published by Lea & Febiger, Philadelphia and New York. Price $1.50.

This work being Medical War Manual No. 1, is authorized by the Secretary of War, under supervision of the Surgeon-General and of the Council of National Defense. As stated in the preface, this volume was issued to supply in a compact form, capable of being carried in the uniform pocket, and therefore convenient for reference, such facts and figures as might be of service to the medical officer in their regular sanitary work. That the object has been obtained, and that the issuance of the book has been justified, will be readily stated by anyone having even the small amount of military experience possessed by the majority of the men by whom it will be mostly used, those in training camps. It supplements and really obviates the use of larger words without omitting essential details. It treats of the work of the medical officer in camp, on the march, and in the trenches, and on the battlefield, followed by chapters on the insects concerned in the transmission of disease, and notes on transmissible diseases.

Not to be omitted is the reference to the interpolated blank pages, affording a means of keeping notes contiguous to the text they concern, or in the field, of avoiding the carrying on the person of extra note books.

Lieut. Harry R. Reynolds, M. O. R. C.

INTERNATIONAL HEALTH BOARD

The Rockefeller Foundation. Third Annual Report.

This report of the Foundation's activities of 246 pages, deals with the hook-worm disease in all parts of the world. This work is of the greatest importance and in which we are deeply interested. Since we have found it worth while to develop foreign trade relations, we become interested in the welfare of the people in far-away parts of the world.

COLLECTED PAPERS OF THE MAYO CLINIC, ROCHESTER, MINNESOTA

Nineteen Hundred Sixteen Collected Papers of the Mayo Clinic, Rochester, Minnesota. Octavo of 1014 Pages. W. B. Saunders, Philadelphia and London. Price Cloth $6.00 Net; Half Morocco $7.00 Net.

The medical profession has come to look forward to the appearance of the collected papers of the Mayo Clinic, each succeeding year with increasing interest. Each succeeding volume has been just a little better than the one preceding, and the present volume is not an exception to the rule. It is not only an inspiration by showing what is being done in the Middle West but a never failing source of information to both the scientist and the busy practitioner.

The collection of papers for 1916 forms a splendidly indexed book of over 1000 pages, by forty-two contributors, all but fourteen of whom have appeared in previous volumes. All of these papers have appeared in some one of the medical journals of the country. All have been boiled down to a pleasing length, as is usual with papers eminating from Rochester, and all are very much to the point. As a work of convenient reference and delightful reading, it is on a very high plane.

The papers by Rosenow evidence on the part of the author an indefatigable capacity for research work, with clear and modest deductions. References given are profuse. Rosenow states that the final proof of the relation between distant foci of infection and ulcer of the stomach and other duodenum seems to have been furnished.

MacCarty tells us that the x-ray is unable to differentiate between early cancer and ulcer.

In regard to the diagnosis of gall-stones, Charles Mayo says; "To depend largely on the evidence of the Rœntgen Ray in the diagnosis of gall-stones is to step backwards many years, its evidence is merely corroborative." Also that cholecystectomy is indicated in a case of cystic gall-bladder with the destruction of the mucosa, empyema, a functionless strawberry gall-bladder, and in cholecystitis severe enough to cause symptoms.

The paper by Judd on the changes produced by removal of the gall-bladder is exhaustive and conclusive.

The paper by Archibald and Giffin on the treatment of pernicious anemia places a sane and probably very correct value on transfusion.

The paper by Durante, son of famous late surgeon of Rome, indicates the character of the work being done in the Foundation, as well as the great radius of its influence. Durante tells us that the microscopic diagnosis of tuberculosis of the breast is not always possible.

The entire work is one of which the gentlemen most responsible for its appearance may well be proud and which will retain a position of authority as well as ready reference. Littig.

PROGRESSIVE MEDICINE

A Quarterly Digest of Medical Literature. By Drs. Hobart Amory Hare and Leighton F. Appleman. Lea & Febiger, Publishers, Philadelphia and New York. Six Dollars Per Annum.

The contributors for Number II, Volume xx, (June, 1917) are Dr. Wm. B. Colby—Hernia; Dr. John C. A. Gerster—Surgery of the Abdomen Exclusive of Hernia; Dr. John G. Clark—Gynecology; Dr. Alfred Stengel—Diseases of the Blood, etc; Dr. Edward Jackson—Ophthalmology.

Dr. Colby makes a rather extended abstract on Hernias of the Urinary Bladder from a paper by Heinrick published some months ago in the Iowa State Medical Journal. On umbilical hernia the results are given from several sources on the results of the Mayo operation which appears to be quite satisfactory.

Gerster gives several pages on Gunshot Wounds of the Abdomen in War.

Surgeon Fauntleroy sums up the problem in relation to operative treatment in the following statement: "The results from operative treatment have been most encouraging in improving the statistics as compared with the expectant line of treatment."

A reference is given to Kanavel's use of the Rehfus stomach tube in acute dilatation of the stomach and to a useful apparatus for continuous hypodermoclysis.

A review is presented on the value of the Rammstedt operation as performed by Downes. He found in sixty-six cases of pyloric obstruction, all presented a small tumor which when removed, relieved the obstruction, giving a mortality of 22 per cent. against 35 per cent. in gastro-enterostomy.

Referring to experimental gastric ulcer, Durante of the Mayo Clinic, enumerates seventeen methods of producing it. A rather extensive review of the surgical treatment of gastric ulcer is presented. Considerable space is given to acute surgical conditions of the small intestines, of considerable interest.

Surgery of the large intestines as seen at the Mayo Clinic, finds considerable space, also certain relationship of the spleen to control certain diseases of associated organs.

The cancer problem comes up for rather exhaustive consideration, particularly of the uterus, including non-malignant conditions.

Probably the most valuable review of medical literature in this number of Progressive Medicine is included under the head "The Blood" by Prof. Alfred Stengel. So much relating to medical and surgical diseases fundamentally rests on a study of the blood that a careful study of this section of the book is particularly recommended.

THE MEDICAL CLINICS OF CHICAGO

Volume II, Number 6. Published Bi-Monthly by W. B. Saunders Company, Philadelphia and London. Price $8.00 Per Year.

The publishers announce that beginning with the July number, the name of the publication will be changed to the Medical Clinics of North America. The reason for this change we assume is to make the clinics more national in character and to secure material from a wider range. We are informed that the July number will be devoted to the work of Johns Hopkins Hospital, September number to Philadelphia clinics, and so on to all the great clinics of America. In this way the medical clinics will serve as an important post-graduate course. The last number of the clinics for May is a Chicago number. We find among its contributors familiar Chicago names who have given the publication a reputation and a success which has stimulated Saunders Company to extend its field and to increase its size to 300 pages each number.

ROENTGEN TECHNIC (DIAGNOSTIC)

By Norman C. Prince, M.D., Attending Roentgenologist to the Omaha Free Dental Dispensary for Children; Associate Roentgenologist to the Douglas County Hospital; Bishop Clark or Memorial Hospital; Swedish Immanuel Hospital; St. Joseph's Hospital and Ford Hospital, Omaha, Nebraska. With Seventy-one Original Illustrations. C. V. Mosby Company, 1917, St. Louis, Mo.

This book of 140 pages will be very helpful in outlining methods of Roentgen Technic to medical men who feel the necessity of x-ray diagnosis in their practice. In large towns there are x-ray laboratories to which practitioners may refer their patients; in smaller towns the doctor must be his own roentgenologist. We are sure this book will be a helpful aid to many members of the medical profession who should know more about technic.

ASTHMA

Presenting an Exposition of the Non-passive Expiration Theory. By Orville Harry Brown, A.B., M.D., Ph.D., Formerly Assistant Professor of Medicine, St. Louis University, With a Foreword by George Dock, Sc.D., M.D., Professor of Medicine, Washington University, St. Louis. Thirty-six Engravings. C. V. Mosby Company, 1917. St. Louis.

Dr. Orville Brown presents in this book an interesting and ingenious theory to explain the principle underlying cause of asthma, which he has designated as the Non-passive Expiration Theory. First, Irritation or Inflammation of the Bronchial Mucus Membrane; Second, Turgesence or Congestion of the Blood and Lymph Vessels; Third, Bronchial Tube Spasm. In his opinion the primary fact is some degree of bronchial tube inflammation which leads to a turgesence of blood and lymph vessels followed by spasm of bronchial tube muscles; that the inflammation causes a swelling of the bronchial mucosa, which may lead to forced expiration and ultimately to asthmatic breathing. Experimentally it has been found that voluntary forced expiration may lead to a more or less severe attack of asthma. On the other hand, restraining forced expiration in an attack of asthma will arrest the attack or materially lessen its severity. The author attempts to show that a full dose of morphia and strychnia in a developed attack with voluntary non-passive expiration, will mitigate or arrest the attack. The author admits the influence of a neurosis in asthma, but insists on the primary bronchia inflammation which causes the cough, the swelling of the mucosa from blood and lymph congestion, and the forced expiration as fundamental. The causes are numerous "colds," excitement, and physical exertion, odors, dust, irritants of any kind, hay fever, and other anaphylactic states, reflexes, nasal polyps, sinusitis, etc. The discussion of the various theories of asthma and its relation to associated conditions is well maintained. The treatment of this disease has generally been so unsatisfactory that we should welcome any new method or new suggestion that may be helpful, and for this reason we call particular attention to this book.

THE TREATMENT OF EMERGENCIES

By Hubley R. Owens, M.D., Surgeon to the Philadelphia General Hospital; Assistant Surgeon to the Philadelphia Orthopedic Hospital and Infirmary for Nervous Diseases; Chief Surgeon to the Philadelphia Police and Fire Bureaus; Assistant Surgeon Medical Reserve Corps, U. S. Navy. Twelve Mo. Volume of 350 Pages With 249 Illustrations. W. B. Saunders Company, 1917. Price $2.00 Net.

This book is more technical than most first aid manuals, but is not beyond the comprehension of those whose intelligence fits them for first aid work. The aim of the book is to give competent instruction on Contusions and Wounds, Hemorrhage, Sprains and Dislocations, Burns and Scalds, Effects of Heat and Cold on Tissues, Artificial Respiration, Convulsions, Bandaging, Transportation, etc.

The importance of a fuller understanding of the best methods of first aid service, induced the author to write the book. It should have a wide range of usefulness in instructing nurses and laymen in what emergency methods should be employed.

THE CARDIO-SKELETAL QUOTIENT

Factors Affecting the Coagulation Time of Blood.

These two reprints; the first from the Laboratory of Pharmacology in the Dartmouth Medical School; and the second from the Laboratory of Physiology in the Harvard Medical School, by Walter L. Mendenhall, M.D. (formerly of Des Moines and a graduate of Drake Medical School), are of marked scientific interest and value and should be particularly noted as the product of high grade scientific work of one of our own men.

CLASSIFICATION AND ARRANGEMENT OF BOOKS IN THE LIBRARY OF THE SURGEON-GENERAL'S OFFICE

The Surgeon-General's Library. By Lieut. Col. C. C. McCulloch, Jr., Librarian, Surgeon-General's Office, Army Medical Museum, Washington, D. C.

These two reprints give the scope and character of this great library containing 225,000 volumes and 340,000 pamphlets. About 1900 current periodicals are regularly received and include all medical journals published everywhere. The Surgeon-General's library is conceded to be the best and most important medical library in the world. There are other important medical libraries in the United States, something over 150 in number. The New York Academy of Medicine has 95,000; the College of Physicians, Philadelphia, about the same number; Boston Medical Library, San Francisco (Stanford University) 40,000; the John Crerar Library, Chicago, 60,000; Kings County, Brooklyn, 70,000 volumes. Denver, Los Angeles and San Diego have creditable growing libraries.

PRACTICAL MASSAGE AND CORRECTIVE EXERCISES

By Hartvig Nissen, President of Posse Normal School of Gymnastics. Revised and Enlarged Edition of the Author's Practical Massage in Twenty Lessons, With Sixty-Eight Original Illustrations. Cloth, $1.50 Net. F. A. Davis Company, Philadelphia.

PHYSICS AND CHEMISTRY FOR NURSES

By Amy Elizabeth Pope, Instructor in the School of Nursing, St. Luke's Hospital, San Francisco; Author of a Medical Dictionary for Nurses; Essentials of Dietetics. Cloth, $1.75 net. G. P. Putnam's Sons, New York City.

SOCIETY PROCEEDINGS

The fall meeting of the Cass County Medical Society was held at Griswold, Wednesday evening, October 10. Preceding the program a bountiful three course dinner was served by the ladies of the Methodist church to twenty-four doctors, their wives and lady friends. Dr. H. D. Hully of Griswold, was host for the occasion and most acceptably did he fill the position. After the dinner, the ladies attended the movies. The following doctors were in attendance: Drs. Greenleaf, Campbell, Burke and Graham of Atlantic; Drs. Campbell and Becker of Anita; Dr. Grimm of Wassena; Dr. Weaver of Cumberland; Dr. Hully of Griswold; Dr. Stults of Wiota; and Dr. F. A. Ely of Des Moines, the guest of the occasion.

Following the dinner, the scientific program was given in the church auditorium. A paper on Carcinoma of the Lung with Secondary Involvement of the Liver, Gall Bladder and Head of Pancreas, by Dr. C. B. Burke of Atlantic, was very interesting and freely discussed; the discussion being opened by Drs. Greenleaf and Campbell of Atlantic. Dr. W. F. Graham of Atlantic, read a paper on Rectal Examinations. Drs. Weaver, Campbell, Becker and Stults participating in the discussion. The next paper was Pathological Liars by Dr. F. A. Ely of Des Moines. The subject was ably handled by Dr. Ely and much interest was created and so many questions were asked that the balance of the program was deferred until the next meeting in December.

M. F. S.

The annual meeting of the Dallas-Guthrie County Medical Society was held at Panora, October 18, 1917. A committee appointed at a previous meeting reported a plan, which was adopted, for assisting the families of physicians who have entered the service of the government. An assessment of $5.00 a member was levied for the purpose of securing a fund which could be used for immediate relief, if such was necessary.

The following officers were elected: President, O. J. Pennington, Dexter; vice-president, W. A. Seidler, Jamaica; secretary-treasurer, S. J. Brown, Panora; delegate, C. I. Thomas, Guthrie Center; alternate, E. J. Butterfield, Dallas Center; member board of censors, C. O. Sones, Panora. Upon recommendation of the board of censors, Drs. Lynch and McKirahan of Perry, were elected to membership in the society.

The following program was presented: A Case of Strangulated Hernia, E. J. Butterfield; Pathological Liars, F. A. Ely; Salpingitis, C. O. Sones. In addition a very interesting talk was given by Dr. Ely on Army Medical and Surgical life as reported before a special meeting of the Polk County Medical Society by two French and English Army Surgeons who had recently returned from the front. S. J. B.

The Fremont County Medical Society met in regular session at the court house in Sidney, October 2. The scientific program was given by physicians from Omaha who were the guests of the society. The subjects presented were: The Practical Value of the Leukocyte Count, C. H. Newell; Infantile Vomiting, Newell Jones; Urinary Antiseptics, A. K.

Detwiler; Syphilis of the Stomach, M. G. Wohl; The Early Diagnosis of Malignancy, A. P. Condon. A large representation of the society membership was present and appreciated the excellent program given by the courtesy of the Omaha physicians. The session closed with a banquet at the hotel.

On October 22 and 23 there was held in Le Mars, under the auspices of the Plymouth County Medical Society, a Tuberculosis Clinic, conducted by Drs. H. V. Scarborough, supt. of Oakdale Sanitorium and R. H. Lott of Waverly.

There were in all twenty-eight patients who presented themselves for examination, and among them were found almost all stages of pulmonary tuberculosis.

On the first day of the clinic these patients were examined, and on the second day the most interesting of the cases were demonstrated to the physicians of the society.

On the evening of the first day Dr. A. E. Kepford, state lecturer on tuberculosis, gave a free public lecture in the Le Mars High School building on The Civilian and Military Aspects of Tuberculosis. Owing to the very inclement weather the attendance at this lecture was not very large, and on account of this fact Dr. Kepford repeated his lecture before the high school pupils on the morning of the second day.

The following physicians were present at the Clinic: J. M. Fettes, W. W. Larsen, M. J. Joynt, W. T. Shepard, T. E. Cole, W. J. Brunner, A. Naffziger, W. H. Heller and A. H. Jastram. Two visitors were also present: D. Gleysteen, M.D. of Alton and Mathilda Hospers, D.O. of Orange City.

This meeting, which was one of the first of its kind, ever held in the state, was pronounced a success by all present and everyone looks forward with happy anticipation to a similar one next year.

A. H. Jastram.

At the meeting of the Polk County Medical Society on Tuesday, October 30, 1917, an interesting symposium was presented on the general subject of therapeutics. Dr. James Taggart Priestley presented an interesting discussion on the therapeutic value of alcohol, calling special attention to its use in cardio-vascular disorders of later life, and its special tonic effects during convalescence from a long exhausting illness.

The subject of cathartics was considered by Dr. R. L. Parker, a special plea being made for a proper classification based on their pharmacologic action, which was to be specially recognized in prescribing them. He considered four classes, (1) the mild aperients represented by castor oil, phenolthalein, (2) the anthracene group as rhubarb, senna, aloes, and cascara, (3) the resin group as jalap, colocynth, and elaterinum, and (4) the saline cathartics.

Sulphur, according to Dr. Edward R. Posner, has a very important place in the treatment of skin diseases, especially scabies.

Dr. H. A. Habenicht gave a most interesting discussion of the therapeutic uses of iodine and dwelt particularly on the value of dilute solutions of iodine in pernicious vomiting.

The closing paper by Dr. A. Carson considered certain drugs he had found useful, referring specially to the many uses of quinine aside from its specific application in malaria; the varied uses of mercury other than in syphilis, the internal use of sulphur, and some of the particular virtues of ipecac.

A very interesting case report was made by Dr. William E. Sanders on cerebellar ataxia. Dr. Nellie Noble presented an autopsy report with demonstration of the specimen pertaining to a baby with a history of periodic attacks of dyspnoea resembling thymic asthma. The autopsy examination revealed a diaphragmatic hernia in which a large portion of the small intestine with a part of the liver extended into the left thorax crowding the heart and lung over to the opposite side of the chest. W. L. B.

The opening fall meeting of the Van Buren County Medical Society was held at the office of Dr. G. R. Neff, Farmington, October 9. Physicians from Mt. Pleasant and Keokuk were among the guests of the society. The program was:

Spinal Therapy—O. A. Geeseka, Mt. Pleasant.

Treatment of Fractures, X-ray Pictures—C. R. Armentrout, Keokuk.

Appendicitis—W. A. Smith, Donnellson.

What is Heredity, How Can it be Controlled—G. R. Neff, Farmington.

The meeting was a success as to interest manifested and attendance.

October 2, the Wapello County Medical Society met in regular session at Ottumwa. The interesting features of the meeting were the papers on Disease of the Gall-Bladder. Dr. H. C. Eschbach of Albia, read a paper on Cholelithias, and Dr. E. B. Howell of Ottumwa, followed with a paper on Cholecystitis. The presentation of both subjects was interesting, and gave a thorough analysis of the subjects and a review of the literature to date. A feature of the clinical program was the presentation of a case of aneurism of the aorta. There was the usual large number of the membership present. H. W. V.

The annual meeting of the Southeastern Iowa Medical Association was held at Fairfield, October 18, under the presidency of Dr. C. P. Howard of Iowa City. While adverse weather conditions lessened the attendance, an interesting meeting was held. At noon a banquet was enjoyed at the Methodist church, Dr. C. F. Wahrer of Ft. Madison, presiding as toastmaster.

Officers elected for the ensuing year were: President, Dr. J. S. Gaumer, Fairfield; vice-president, E. B. Howell, Ottumwa; secretary-treasurer, C. W. Wahrer. The 1918 meeting of the association will be held in Washington.

The annual meeting of the Northwestern Iowa Medical Society was held October 31, at the Commercial Club rooms, Sheldon, with President F. P. Winkler of Sibley, in the chair.

The program which was of more than ordinary interest was attentively received and freely discussed. The program as announced and fully carried out was: Common Colds, Peter I. Dahl, Inwood; Some Remarks on the Present Status of Cardiac Disease, D. L. Rundlett, Sioux Falls; The County and District Tuberculosis Sanitarium, C. L. Sherman, Luverne, Minn.; The Present Tuberculosis Situation in Iowa, A. E. Kepford, state lecturer.

The committee appointed to bring in a fee bill reported its work incomplete, and the time was extended until the April meeting.

Officers for 1918 were elected as follows: President, A. J. Meyer of Hawarden; vice-president, Charles L. Roland of Chatsworth; secretary-treasurer, Jay M. Crowley of Rock Rapids; censor for four years, E. W. Bouslough of George.

The meeting closed with a banquet at Hotel Arlington. Thirty-four physicians were present.

J. M. C.

The thirtieth annual meeting of the Medical Society of the Missouri Valley was held at the Lincoln Hotel, Lincoln, Nebraska, September 20-21. While the attendance was curtailed on account of so many of the members having entered the war service, nevertheless, the enrollment reached one hundred and sixty, about one-third of whom were from Iowa.

The scientific program was full of interest. The Iowa membership was represented on the program by Drs. Gershom H. Hill of Des Moines, and O. C. Morrison of Carroll.

On account of the war condition, it was voted to hold but one meeting next year, therefore, the next annual meeting will be held in September at Omaha. The officers for the ensuing year are: President, A. I. McKinnon, Lincoln; vice-president, T. M. Paul, St. Joseph; second vice-president, Paul M. Gardner, New Hampton, Ia.; secretary, Charles Wood Fassett, Kansas City, and treasurer, O. C. Gebhardt, St. Joseph.

Supplement to list of Iowa physicians who have been recommended by the Surgeon-General for commissions in the Medical Officers' Reserve Corps.

Evert Clarence Hartman, 1st. Lieut., Algona.
Benjamin George Dyer, Capt., Ames.
Clyde Leslie Van Patten, 1st. Lieut., Anamosa.
George Albert Spaulding, Capt., Avoca.
Walter Simmons Chester, 1st. Lieut., Britt.
Charles Glenn Baird, 1st. Lieut., Cedar Rapids.
George Ray Hill, Capt., Charter Oak.
Fisher B. E. Miller, 1st. Lieut., Cherokee
Frank H. Clark, Capt., Clarinda.
Joseph Walter Sellards, 1st. Lieut., Clarinda.
Theodore Alan Willis, 1st. Lieut., Clear Lake.
David Sturges Fairchild, Jr., Lieut.-Col., Clinton.
Rollin Slossen Fillmore, Jr., 1st. Lieut., Corwith.
Laurell Lavergne Lugar, 1st. Lieut., Corydon.
Ben S. Walker, Capt., Corydon
Robert Carnahan Kirkwood, 1st. Lieut., Coulter.
Hugh Pierce Barton, 1st. Lieut., Davenport.
Raymond Raney Kulp, 1st. Lieut., Davenport.
James Arthur Downing, 1st. Lieut., Des Moines.
Daniel Johnson Glomset, Capt., Des Moines.
Francis LaPina, Capt., Des Moines.
Howard Jesse Wright, Capt., Des Moines.
Walter Albert Smith, 1st. Lieut., Donnelson.
Eugene Richards Lewis, Major, Dubuque.
Alanson Madison Pond, Capt., Dubuque.
Lonnie A. Coffin, 1st. Lieut., Farmington.
William Murray Wildman, Capt., Fort Dodge.
John Lewis Peppers, 1st. Lieut., Goldfield.
Walter W. A. Kresensky, 1st. Lieut., Greeley.
Cecil Charles Grant, 1st. Lieut., Hudson.
Fred F. Agnew, Capt., Independence.
Harry Rogers Jenkinson, 1st. Lieut., Iowa City.
Fred C. Smith, 1st. Lieut., Keokuk.
Arthur E. Shappel, 1st. Lieut., Knoxville.
Leeman D. Huff, 1st. Lieut., Lenox.
Merl Lee Pindell, 1st. Lieut., Macksburg.
Weaver Aldus Rush, Capt., Malvern.
James Edward McDonald, Capt., Mason City.
Lieut. Louis L. Bowie, Milo.
Emmet Lefevre Hawkins, 1st. Lieut., Mineola.
Harold Edgar Fruth, 1st. Lieut., Muscatine.
Ulysses Simpson Geiger, 1st. Lieut., North English.
Oscar Herman Banton, 1st. Lieut., Nora Springs.
Harry Everette Carver, 1st. Lieut., Rose Hill.
Elliott Cunningham Cobb, 1st. Lieut., Sioux City.
Harry Francis Rubel, 1st. Lieut., Struble.
Walter Henry Fox, Capt., Waucoma.
Robert Henry Lott, 1st. Lieut., Waverly.
Charles Luther Patterson, Capt., West Side.
Frank Beach Whitmore, 1st. Lieut., West Union.
Thomas Lee Long, Capt., Woodward.

CONCERNING THE 1918 DUES

The month of December, from time immemorial, has ever been one which has been looked forward to by mankind with joy and happiness. In the rush attending Yule-tide affairs, many things of importance are ofttimes overlooked with ultimate regrets.

The members of the Iowa State Medical Society will not only be as busily engaged during the coming weeks, as in previous years, but for obvious reasons, many will have but little if any time to give to the consideration of some things which are of vital importance to organized medicine in Iowa. The month of December is the month for giving. It is rather fitting and appropriate, therefore, that the members of the State Society are given an opportunity to pay their annual dues during this month.

Already instructions have been sent to the secretaries of the various component county medical societies urging them to so arrange matters as to give

members an opportunity to pay their dues, for the coming year, during the month of December. It will be recalled that the annual dues are due on or before January 1. While dues may be paid any time during the month of January, members who fail to do so are in suspension for non-payment after February 1.

The time for payment is not an arbitrary one concocted by any official, either state or county, but is according to the by-laws of the Society. It becomes a matter of great importance, therefore, that prompt attention be given this matter when members are given the opportunity to pay their annual dues. Failure to do so means suspension; suspension means loss of membership, loss of membership means forfeiture of all rights and privileges appertaining thereto, not the least of which, by any means, is forfeiture of any claim for medico-legal protection during the period of suspension.

The State Society cannot exist without funds. Those who are intimately acquainted with its operation know that "value received" is given for every dollar received. So far this year 2240 members have put their stamp of approval on the Society's actions by sending in their dues. Let the record be equally as good for the coming year.

Other things have advanced in price, but the annual dues remains the same. The House of Delegates at the last annual session fixed the dues and their apportionment as follows: General Society expenses, including the Journal, $2.00; medico-legal protection, $2.00; special assessment, $1.00; total annual dues, $5.00.

MEDICAL NEWS

Dr. G. H. Sumner and Professor Lafayette Higgins of Des Moines, Dr. Henry Albert of Iowa City, Professor Max Levine of Ames and Mr. Hayes of Sioux City, attended the meeting of the American Public Health Association which was held in Washington October 16 to 20. The program this year was a "war" program since many of the papers dealt with public health phases of war problems.

Dr. Henry Albert was Chairman of the Laboratory Section. His address as such was on the subject "The Service of State Health Laboratories in Time of War." Dr. Albert was also on the program of the general session with a paper on "War Problems and Opportunities from the Standpoint of the Laboratory."

Dr. Sumner was elected vice-president of the association for the coming year.

MARRIAGES

Dr. Paul H. Schaefer to Miss Selma Weimer, both of Burlington, October 18.

Dr. Julius S. Weingart to Miss Ella Foerstel, both of Des Moines, October 30.

Dr. Leland Grant Hewitt to Miss Emma Quandahl, both of Northwood, October 24.

Dr. William Jepson to Miss Marie Ohge, both of Sioux City, October 15.

Dr. George A. Bemis to Miss Ruth Lewis, both of Garner at Albert Lee, Minn., October 24.

BIRTHS

Dr. and Mrs. Fred S. Spearman of Whiting, October 19, a daughter.

Dr. and Mrs. J. A. Uran of Wellsburg, October 13, a daughter.

Dr. and Mrs. J. K. McCullough of Waukon, a son.

Dr. and Mrs. Leroy Tripp of Sioux City, a son.

DEATHS

Harvey W. Scales, M.D., aged sixty-two, Miami Medical College, 1879; member of Page County and Iowa State Medical Societies; a practitioner for over thirty years at Yorktown, Page county and vicinity; was found dead in his room at the Hale Hotel, Yorktown, October 13.

Charles James Allen, M.D., age sixty-one; Rush Medical College, 1887; a practitioner at Sheffield for thirty years; died at his home August 31 from tuberculosis.

Thomas J. Shreves, M.D., Rush Medical College, 1857; a practitioner for sixty years, and one of the pioneer physicians of Des Moines, died at his home on his eighty-second birthday, September 7, from a fractured hip sustained in a fall.

Edward Richard Ames, M.D., age forty-seven; born at Kingston, Wis., June 29, 1870; graduated from Hahnemann Medical College in 1896; a Fellow of the American Medical Association, and a member of the Iowa State Medical Society; president of the Marion County Medical Society, died at his home in Knoxville, August 29, from angina pectoris.

HOSPITAL NOTES

On October 23, occurred the dedication of the Bertha M. Parsons building of the Iowa Congregational Hospital, Des Moines. This building, a four story brick structure, complete in every equipment, is located on a three and one-half acre wooded tract at Fourteenth and Clark streets, in the residence portion of the city. The building and grounds represent an expenditure of over $77,000, and is the first Congregational hospital erected in the United States. One of the largest rooms in the hospital has been named the Frisbee room in honor of Dr. A. L. Frisbee, who for thirty-three years was a Congregational pastor in Des Moines, and celebrated his eighty-seventh birthday the day previous to the dedication. The hospital board is officered by L. M. Grimes, president; Craig Wright, vice-president, and Simon Casady, treasurer.

During Infancy and Childhood it is important but difficult to keep the bowels in order. It can be done by the continued use of

Liquid Petrolatum Squibb

Heavy (Californian)

It is pure and safe, tasteless and odorless. Because it is neither a laxative, a cathartic, nor a purgative, but a perfect mechanical lubricant, is not absorbed by the system and does not disturb digestion, it may be given indefinitely in any necessary quantity. Thus it prevents intestinal toxæmia, restores normal action of the bowels, and aids in maintaining normal nutrition. Especially valuable for young patients during the summer and autumn months.

To be had at all drug stores in original one-pint packages under the Squibb label and guaranty.

LIQUID PETROLATUM SQUIBB, Heavy (Californian) is refined under our control and solely for us only by the Standard Oil Co. *of* California, *which has no connection with any other Standard Oil Co.*

E. R. SQUIBB & SONS, NEW YORK

Manufacturing Chemists to the Medical Profession since 1858

CHANGES OF LOCATION

Dr. Lawrence W. Littig of Davenport, has again located at Iowa City.

Dr. B. A. Smille of West Union, has removed to Gilmore City.

Dr. F. D. Walk of Walker, has removed to Lowden.

Dr. E. H. Dun Van of Robinson, has purehased the praetiee of Dr. C. P. Coulson of Chelsea.

Dr. D. T. Nicoll of Clarence, has removed to Clinton.

Dr. A. H. Konigmaeher of Missouri Valley, has removed to Council Bluffs.

Dr. L. L. Bowie of Buckeye, has sold his practice and removed to Milo.

Dr. Anthon Rhonalt, of Coulter, has purchased the practiee of Dr. J. K. Guthrie of Ringsted.

Dr. J. J. Daly of Deeorah, has removed to Des Moines.

Dr. R. C. Coleman of Estherville, goes to Iowa City as assistant surgeon in the state university hospital.

Dr. F. Rosenbladt of Des Moines, has removed to Council Bluffs to take charge of the practiee of Major Donald Macrae.

Dr. George May of Audubon, has removed to Des Moines and is associated with Dr. C. M. Werts.

Dr. Edgar Banghart of Omaha, has loeated at Storm Lake.

Dr. H. E. Ransom of Valley Junction, has removed to Des Moines.

Dr. E. N. Osnes of Joiee, has removed to Readlyn.

WITH OUR ADVERTISERS

The Restoration to Favor of Creosote

Creosote has been employed by physicians with varying success for many years in the treatment of bronehitis, especially the bronchitis of pulmonary tuberculosis.

Unfortunately, because of its disagreeable odor and taste, because it caused gastric irritation and distress, nausea and even vomiting, most clinieians were forced to abandon its use. For these reasons ereosote is now rarely preseribed. It has fallen into disuse, even though it is admitted that it is possessed of therapeutic value.

A New Creosote Produet

Calcreose (a chemieal combination of calcium and creosote, eontaining 50 per eent. ereosote) very largely overcomes the objeetions to creosote.

Like ereosote, calcreose will allay cough, lessen expeetoration and lower the temperature.

Like creosote, ealcreose improves digestion and nutrition through intestinal antisepsis and stimulation.

Like ereosote, calereose is a stimulating expeetorant.

Calcreose is not a germicide, but it ehecks baeterial activity, checks putrefaction, lessens the production of toxines—hence reduees the toxemia always associated with intestinal infections.

Like creosote, calcreose is possessed of all these good qualities but, unlike creosote, ealcreose is practically devoid of all objectionable features.

In other words, calcreose is an agreeable form of ereosote medication, and when given in small doses at first, gradually raised to tolerance, it is free from any untoward effects.

As high as 120 grains of calcreose has been given daily without digestive disturbance.

Comparatively Inexpensive

Unlike many creosote compounds, calcreose is comparatively inexpensive. A thousand four grain tablets costs the physician or druggist only $3.00.

Calcreose is made by The Maltbie Chemieal Company, Newark, New Jersey and is advertised elsewhere in this issue of the Journal.

CAPSULES BISMUTH RESORCINOL COMPOUND NOT ADMITTED TO N. N. R.

(Report of the Council on Pharmacy and Chemistry)

In response to inquiries received, the Council took up the consideration of Capsules Bismuth Resoreinol Compound (The Gross Drug Company, Inc., New York City). The label, sent by The Gross Drug Company, bore the following:

Capsules—Bismuth Resorcinol Compound

Bismuth Subgallate, 2 grs.; resorcinol, 1 gr.; beta naphthol, ½ gr.; ereosote (Beechwood), 1 m. This eombination is of acknowledged value in reducing the intestinal putrefaction and fermentation, allaying the pain and diseomfort of flatulent eonditions in the intestinal traet.

Dose—One or two capsules before or after meals repeated in two hours if necessary. The Gross Drug Company, Inc., 20 Laight street, New York.

The Couneil held this preparation inadmissible to New and Non-offieial Remedies or the Appendix, because (1) the claim "acknowledged value in reducing the intestinal putrefaetion and fermentation, allaying the pain and discomfort of flatulent eonditions in the intestinal tract" is an unwarranted, exaggerated and misleading elaim of therapeutie value (Rule 6); beeause (2) the name does not indicate the identity of the bismuth salt contained in the capsules, nor declare the presence of betanaphtol and ereosote (Rule 8); and beeause (3) the combination of bismuth subgallate, resoreinol, betanaphtol and creosote in fixed proportions is irrational (Rule 10).



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SYPHILIS OF THE EYE*

G. F. Harkness, M.D., F.A.C.S., Davenport

To try and present the subject of ocular lues in all its phases would require volumes. In attemping to comply with our chairman's request for a paper upon this subject, I must of necessity neglect altogether many phases of the question and can only briefly attempt to point out some features that have seemed to me to be of importance. Further in order to gain some idea as to the general consensus of opinion among ophthalmologists regarding certain aspects of the subject, I have received personal communications from men, teachers and those in private practice from all parts of the country which I have attempted to collate so that they may be of interest to us.

As a premise I might say that in any ocular condition, inflammatory or simulating a new growth in which the diagnosis is in doubt, suspect syphilis. None of the ocular tissues are immune from the activities of the spirochæte or its toxins.

About the eye we encounter a periostitis in the acute or subacute form of specific origin. Gummatæ also occur. Chronic periostitis when leutic may set up a gradual thickening of bone with consequent exophthalmos, compression of nerves and paralyses. Gummatæ are accompanied by edema, tenderness, diplopia, optic neuritis or retrobulbar neuritis, displacement of the eye ball, and by palpation one may feel a mass at the angle of the orbit. It is important to bear in mind that the gumma may be an exceedingly painful process. Stricture of the naso-lachrymal duct may be due to periostitis of luetic origin, and in this connection it is well to bear in mind that nasal operations are to be avoided and when accompanied by purulent secretions in the sac, extirpation of the same is the one course indicated.

As to paralyses of the extraocular muscles, we have formerly thought that about 50 per cent. of such cases were of luetic origin. The pathology of such cases lies to a large extent within the cranium and as such gives an unusually large number of negative Wassermann and other test reactions in spite of syphilis being the cause. Improvement of laboratory tests in the future will probably increase the commonly accepted percentage of the present time.

Syphilis of the eyelids may occur during any stage of the acquired form of the disease and also as a hereditary manifestation. The eyelids occupy a position next to the lips and fingers as an extra-genital site for the primary lesion. From 3 to 5 per cent. of such cases appear here. Typically the chancre appears here as elsewhere as an ulcer with an indurated base and always accompanied by an involvement of the preauricular gland and in addition a frequent induration of the submaxillary gland. The lower lid is more frequently involved and rarely does it appear at the outer side of the lid. The condition is to be differentiated from the pustules of vaccinia, rodent and tuberculous ulcer and the breaking down of a malignant growth. It is not always a single lesion. Findlay (Archiv. Ophthal., July, 1915) reported nine cases of double and one of triple chancre of the eye lids.

Secondary lesions are more rare though we do have mucous patches and ulcers, generally along the lid margin and at the inner canthus. At times it is very easy to mistake these lesions for lupus or epithelioma and when over the lachrymal sac for dacryocystitis.

Tertiary lesions are the most common, but the gumma as a circumscribed tumefaction is of extreme rarity. Generally this stage of the disease manifests itself as a tarsitis, with extensive thickening, swelling and tenseness of the eyelids. Later ulceration with a punched out margin and dirty yellowish or grey debris may be present. Parsons states that the microscopical diagnosis is difficult, and that while giant cells may be present, they are more often absent. Further as a diagnostic point; that when such a lid is incised it does not bleed. The condition usually is without pain, but the exception may occur.

*Read before the Section Ophthalmology, Otology and Rhino-Laryngology, Iowa State Medical Society, May 9, 10, 11, 1917, Des Moines.

Personally the differentiating from a chalazion has offered more difficulty. Giant cells were present in the tissue removed after the mistake in diagnosis was realized. We are all aware of the free blood supply of the eye lids and how resistant they are to extraneous infection. The eyelids perhaps more than any other of the ocular tissues, yield to specific medication. Time is an important element to prevent cosmetic disfiguration. The avoidance of surgical measures and caustics is particularly to be kept in mind. The use of neo-salvarsan intravenously is especially indicated and the results pre-eminently satisfactory, healing being practically without scarring. As a hereditary type, de Schweinitz mentions a form of blepharitis, with sharply ulcerated spots and absence or falling out of the eyelashes, which appears shortly after birth. A somewhat similar condition is seen in secondary lues in the adult.

It is probably true that some of the cases of primary lesions of the lids have their origin in the conjunctival membrane, yet clinically show little involvement there. In 1913, twenty-two cases had been reported, seventeen of which were in the French literature. A conjunctival irritation accompanied by ecchymosis, scanty secretion, lachrymation, contemporaneous adenopathy, an ulcer with a wine red indurated margin of cartilagenous consistency and without pain, unless involving the limbus, comprises the typical picture of this condition. Healing is always kindly and without scarring or loss of vision. The ordinary incubation is from ten days to two weeks, though de Schweinitz has reported one case with six weeks incubation. Mathewson (Ophthal. Record v. 24, p. 342) reported a primary lesion in the lower fornix, but such location is very rare.

Fuchs also emphasizes the extreme rarity of syphilitic ulcers of the conjunctiva. de Schweinitz calls attention to a form of conjunctivitis due to syphilis which is resistant to local treatment and appears as a stubborn catarrhal condition or with the formation of granulations, simulating trachoma in which the conjunctival membrane has an anæmic appearance.

Syphilis as a contributing factor in keratitis is always to be considered when the deeper layers are primarily involved. Luetic lesions are always chronic and never produce ulceration, though as Fuchs states, we may obtain a positive fluorescin strain. Such inflammations are not to be considered as entities in themselves but as part of a condition involving the uveal tract as well. The iris, ciliary body, and choroid, are always involved, and Marshal has demonstrated by microscopical studies that the keratitis is really a manifestation of a uveitis. It is probable that a serous iritis always precedes the keratitis, though this statement does not find universal acceptance.

The predominating condition here demanding our consideration is the so-called parenchymatous keratitis. Space does not permit a review of the classical picture so well known to all of you. The infiltrative stage is preceded by a punctate keratitis with subsequent vascularization and development of the salmon patch from the vessels followed by a slow process of resolution. The fine net work of collapsed vessels years afterwards only too well tells its story. It is important to note that the vascular trunks come out beneath the limbus and that in the type of the disease those vessels appearing more superficially from the sclera do not extend far but form a so-called epaulet like swelling at the limbus and are not responsible for the loss of corneal transparency.

Fuchs considers the condition named by himself keratitis profunda punctata as a true syphilitic lesion. More rarely we have a sclerosing type of the disease and a marginal type. There is claimed by some to be clinical differentiation as to the inherited and acquired type of the disease, in that the latter form shows a lessened vascularity and more often involves but one eye, particularly exemplified by that type developing at some point near the margin of the cornea with a limited dense grey infiltration often attaining a marked opalescence and without vascularization. In the intrauterine type of disease, spirochæte are abundant but the condition appearing after birth is entirely different for it is rarely possible to demonstrate the organism and the process is to be looked upon as a degenerative one due to the action of toxins originating from a foci of spirochæte somewhere in the body. Regeneration is always a slow process and this may logically explain why so many have reported poor results from specific medication, particularly as regards the use of neo-salvarsan.

Returning to the typical parenchymatous type of the disease, the luetic etiology of the same was advanced by Hutchinson in 1857. Prior to that time it was generally accepted that syphilis could not affect the cornea and it was many years before his views on the subject were generally accepted. Particularly since the advent of laboratory tests, lues has become so predominating a factor that many observers are now claiming that all such cases originate from this cause. Fuchs states that the more carefully do we investigate, the greater the number of cases do we conclude

are due to hereditary lues.

From the personal communications received, it is interesting to note the following.

The general opinion at the present time would not classify all cases as luetic. Out of ninety-two answers, thirty answered affirmatively for all cases and sixty-two negatively. Of the former,two qualified if bilateral, two if in children, and two if including the tuberculo-luetic cases, considering both an active factor. As to percentages among the negative answers, the lowest given as non-luetic was one-half per cent., and the highest 50 per cent. among forty answers received. In detail; one 50 per cent., one 35 per cent., two 30 per cent., one 15 per cent., eight 10 per cent., five 7 per cent., four 5 per cent., three 3 per cent., six 2 per cent., and eight 1 per cent., an average of 8.1 per cent., with over half the answers being below 5 per cent., or lower.

Inherited lues far overshadows the acquired types of the disease as a causative factor. Clausen's statement that 10.98 per cent. of proven cases are of the acquired type is far greater than generally accepted. Carpenter (Annals of Ophthal. October, 1908) reported 19000 cases, only three of which were of the acquired type. Gradle (Urologic and Cutan. Review, vol. xii, 4) states the personal belief that hereditary lues overshadows the acquired form almost to extinction.

It is hard to realize that before the advent of the Wassermann test placed lues in its proper etiological position, some observers reported as low as only 14 per cent. of cases exhibiting clinical manifestations of inherited syphilis. (Gradle.)

Leber reported 160 cases with positive Wassermann in 83.9 per cent., and Igersheimer reported ninety-one cases, Wassermann positive in 86.3 with clinical signs of inherited lues, and the other two probably luetic, concluding 100 per cent. were of syphilitic origin.

The fact that a negative Wassermann does not exclude syphilis, prompts us to continually bear in mind clinical evidences of the disease. The significance of the so-called Hutchinson teeth (upper incisors) is generally accepted, and as further evidence in this locality, Suker has called attention to the marking of the permanent teeth, particularly the molars, the enamel of the cusps being wanting, the dentine peg appearing with a subsequent wearing of the teeth to a flat surface, and that this more frequently occurs when the patient does not show an involvement of the incisors.

Tuberculosis, influenza, malaria, and arthritis were formerly accepted causative factors. Risley has stated that many cases are the result from diseases of nutrition, an incidental manifestation of faulty metabolism. With perhaps the exception of tuberculosis, general opinion at the present time would include these causes as contributing factors with lues as a basic cause.

The ultimate visual results are more favorable in the young and decrease with the age of the individual. Igersheimer has reported poor vision 5/35 in 50.8 per cent. An acquired myopia develops in about one-third of the cases.

The disease appears more frequently about the age of ten, though without accurate data, the cases seen personally I am sure will average an earlier age. Rarely do cases develop after twenty, though one case has been reported as late as sixty. Relapses may occur, Igersheimer reporting the same in about 14 per cent. of cases. Under puberty, 90 per cent. of cases become bilateral, while in older patients with active treatment, only 50 per cent. But a word as regards the therapy. Atropin, dionin, hot compresses and protection from light are universal measures employed. Mercury by inunction or in the form of the bichloride in minute doses, find general support. The iodides are to be avoided during the active inflammatory stage. The iodide of iron as the principal internal medication finds many advocates. Stephenson has reported rapid cures with the use of atoxyl and a number of men have reported favorably as to the use of neosalvarsan and other arsenical preparations, but generally speaking, the results have been disappointing. From the personal replies, seventy-two in number, eight believed neosalvarsan to be of benefit in this condition but on the other hand it was mentioned more often than any other condition as receiving the least benefit from such medication, heading the list in twenty answers. The probable reason for this lies in the fact that parenchymatous keratitis does not result from the presence of the spirochæte locally but rather to a sensitization from a focus elsewhere. Other factors may be active in bringing about the sensitization and with the specific medication the treatment of these other factors are lost sight of, particularly exemplified in the so-called tuberculo-luetic type.

Luetic involvement of the sclera is rare and when so involved, it is claimed that the originating point is in the uveal tract. Isolated nodules may be syphilitic but the typical recurrent scleritis is more often due to other causes. Scleral tissue is naturally resistant and ulceration is of extreme rarity. Isolated nodules may be syph-

ilitic and the so-called gummatous scleritis is confined to the deep form accompanied by yellowish brown transluscent patches (de Schweinitz). Quoting from Parsons, Alexander reported eight cases of gumma confined to the sclera. Gumma of the ciliary body may extend and lead to destruction of the sclera.

As regards iritis, it is not necessary to enter into the symptomatology except as to differentiating as to the etiology. As a hereditary manifestation, luetic iritis occurs rarely with the exception of the constant association of inflammation of the uveal tract with a parenchymatous keratitis. The involvement of the iris may at times become quite conspicuous and to a lesser degree is always present. Luetic iritis occurs as a secondary or tertiary manifestation, but the differentiation is not always easy. As Fuchs states, syphilitic iritis with the formation of nodules, offers an easy diagnosis, but as Parsons states, the syphilitic forms often resemble those due to other causes and further it is difficult to differentiate the same microscopically. When due to lues, both eyes are generally involved and the iris has more often a muddy appearance and the iritis assumes the plastic type. The nodular type of the disease was formerly considered as belonging to the tertiary stage and the nodules ranging in size from a pin head to a much larger size. At the present time, however, iritis even with this formation is generally classified as a secondary lesion. As such, the inflammation may appear before the chancre has healed and coincident with the rash. Condylomata and gumma are not to be differentiated by their location on the iris. The latter by preference seeks the pupillary and ciliary margins, but condylomata may do likewise. The gumma is more often single, appears more often as a yellowish brown tumor with fewer vessels covering its surface, less red than the secondary type of lesion, and as de Schweinitz emphasizes, undergoes a fatty degeneration of the area involved, resulting in a permanent atrophic scar. In contrast to this, the secondary lesions heal without scar formation. Tertiary lesions more commonly assume the so-called quiet type of iritis. It is of interest to note the observations of Terrien and Cantonnet (Arch. de Ophthal., May, 1907) that in syphilitic iritis there is nearly a normal number of the mononuclear leucocytes while in the non-syphilitic cases, particularly those arising during acute infections, there is a decided leucocytosis, and if the normal equilibrium is altered, there is a tendency towards an increase in the polynuclear forms. While such a blood change is not positive, it may be an aid in doubtful cases. As to the prevalence of iritis among syphilitics, de Schweinitz quoting Alexander states that from .42 to 5.37 per cent of syphilitics suffer from iritis. Regarding the frequency with which syphilis is the cause of non-traumatic iritis, the trend of opinion has for a number of years, and particularly of late, been to reduce the percentages formerly accepted. Seventy-five per cent. of the cases due to lues was at one time acceptable generally. Jennings and Hill in 1909 reported 500 cases from the Wills Eye and Ear Hospital and gave 61.4 per cent. as due to lues. Butler (British Med. Jour., 1911) gave 25 per cent. due to lues and 30 per cent. in which the cause could not be ascertained. In answer to my own communication attempting to gain an idea as to the attitude of the profession today, there was a wide variation of percentages given from eighty-two answers, the lowest given was 10 per cent. and the highest 95 per cent., with an average of 48.22 per cent. In a general way those connected with the teaching centers gave a lower percentage and several appended an expression that in view of recent investigations, syphilis was not as great a factor as formerly considered. A proper appreciation of non-syphilitic causes has not been impressed upon the profession generally and in this regard mention should be made of the admirable paper by Irons and Brown (Journal American Medical Association, June 10, 1916) tabulating an investigation as to the etiology of 100 cases of non-traumatic iritis. Sixty-one failed to reveal any evidence of syphilis; thirty-nine cases had suffered a syphilitic infection, but of particular import is the fact that of these thirty-nine they were able to establish in sixteen another cause than syphilis as the factor responsible for the iritis, the attention to which relieved the iritis, leaving 23 per cent. as due to lues. We have come to accept the dictum that a negative Wassermann is without positive value and now we must also accept the fact that a positive Wassermann does not establish syphilis as a cause of the lesion present.

The position of the ciliary body anatomically often makes the differentiation of a diagnosis limiting the inflammation to this process, impossible. It is so intimately associated with inflammations of the iris anteriorly and with the choroid posteriorly. As a syphilitic lesion it is generally a secondary manifestation, though gummatæ have been recognized. The acute type as a diffuse inflammation or with tumor formation is quite severe, associated with an active iritic involvement, the presence of hypopyon pre-

ceded by a punctate keratitis, and a hazy cornea. The chronic type of the disease, which may be syphilitic, often manifests itself as a serous cyclitis; the iris may be mobile and show little evidence of inflammation. The punctate spots upon the posterior surface of the cornea are symptomatic and as such the condition should not be classified as a keratitis *per se*. Involvement of the choroid, in its periphery particularly when the condition is luetic, is practically constant. There is likewise a very close association between scleral inflammations in this locality and the ciliary body.

Of particular import in our treatment of the chronic type of the disease is an accompanying atrophy of the iris with a narrowing of the caliber of its vessels and lessened ability to hold blood throwing more into the ciliary body. Hence the use of atropin should always be watched, for pain following its administration is an evidence of increase of tension.

The chronic type of uveitis, which may continue for a long time, may be syphilitic, and while I have been able to obtain no statistical information on the subject, what applies to the iris applies here, in that a positive Wassermann does not establish syphilis as the causative factor, and the extreme chronicity demands a careful search for some focal infection elsewhere in the body.

Almost all diseases of the choroid are symptomatic of general diseases. It is to be doubted that lues affects the choroid alone or the retina alone but that at some stage the condition should more properly be termed a chorio-retinitis. The ophthalmoscope is not to be relied upon for a positive luetic diagnosis be the lesion localized or disseminated. Parsons states that the changes due to lues are indistinguishable from those due to other causes. Various classifications have been made according to the type of lesions present, such as diffuse, disseminated or circumscribed, but with all, lues in the congenital or acquired form, is considered responsible in the majority of cases. Future investigations as regards focal infection will probably reduce the number of cases due to lues. Both eyes are generally affected and particularly so in acquired syphilis, the lesions appearing from six months to many years after the initial lesion. Opacities in the vitreous are a common accompaniment, and some writers claim that the same as fine dust like deposits, with a cloudy retina and involvement of both eyes is pathognomonic of syphilis. Certain aids are important in establishing a luetic etiology. Examination with the loupe may reveal deeply situated corneal vessels and fine central parenchymatous opacities, persisting for years and offering proof of a form of parenchymatous keratitis. Dots of pigment in the pupil of the young, indicate an early iritis, and iritis in children is generally syphilitic. If sclerosed choroidal vessels are present, the probable cause is either syphilis, ateriosclerosis or nephritis, but if not present the cause is more likely to be tuberculous. In the old atrophic form of hereditary chorioretinitis do we see the extreme sclerosis of choroidal vessels. In the disseminated type, due to lues or tuberculosis, the collection of pigment when due to syphilis tends to lie more in the anterior segment of the choroid. Syphilitic atrophic spots are more abundantly pigmented than those due to tuberculosis.

Liebrich, Graefe and others claim to have established a genuine syphilitic retinitis, but as a primary condition it is extremely rare as compared to its involvement as a neuro-retinitis or secondarily from the choroid.

The retina may be involved diffusely or with a circumscribed lesion; in the former the general cloudiness is accentuated by more dense grey spots in the macular region, in the latter a bulky white exudate may be located here or close to one of the larger vessels. This exudate as it undergoes degeneration and scar contraction, may give rise to a detachment. The later pigmentary changes following the diffuse type reveal a picture at times resembling retinitis pigmentosa corresponding to Försters so-called syphilitic choroiditis. In the hereditary form the post-inflammatory changes may reveal the exudate transformed into connective tissue.

There is a condition spoken of as retinitis-luetica, in which the papilla is normal, but with a large exudate on one or more of the vessels, especially the veins, and a large scotoma passing across the field of vision, due to an occlusion of the cilio-retinal artery.

Lues deserves first consideration in involvement of the optic nerve be the condition a primary atrophy, an inflammation or a secondary atrophy. An optic neuritis due to hereditary lues is rare and usually associated with a meningitis. The syphilitic neuro-retinitis presents a large edema often extending two papillary diameters. The retina may be indistinguishable and choroidal patches often accompany. It is important in primary atrophy to try and distinguish syphilis as a cause separate from tabes and paresis. Tabetic atrophy generally appears early and may for years be its only symptom. Reflex immobility of the pupil with atrophy, indicates tabes, while absolute immobility with a dilated

pupil, paresis or syphilis in some other form. Miosis only occurs in tabes. The tabetic field of vision generally shows sector-like or concentric losses while central scotoma are more common in other forms of syphilitic involvement. Optic atrophy, the Argyle-Robertson pupil and absence of knee jerks, establishes tabes. A retrobulbar neuritis may be of luetic origin and the so-called choked disc may depend upon syphilis within the cranium, and while the eye condition depends upon a secondary cause, it is essential to try and establish the luetic diagnosis.

The positive Wassermann test is absolute as regarding the presence of syphilis, though it does not so establish this as a causative factor of the lesion present. I desired to determine the attitude of the profession regarding a negative Wassermann, particularly as regards checking one laboratory with another. From ninety answers received, fifty-seven answered affirmatively and thirty-three negatively. From supplementary remarks received, however, I do not believe that the above would represent a real division since by some the question was taken to mean a second test by the same laboratory. Consequently conclusions cannot be drawn, but the fact remains that the errors in laboratory technique are to be considered, and secondly the patient's condition, for with the same laboratory following identical technique, a positive report may not be received until after the third or fourth test. Space does not permit a consideration of other tests, except to emphasize the importance of a Wassermann of the spinal fluid in central nervous lesions and the value of the luetin test in tertiary lesions. Personally in private practice I have felt here as perhaps nowhere else the impracticability of often following that course to establish a diagnosis which we all feel to be the best. Financial considerations and the attitude of the patient often make our method far from ideal.

As regards a routine treatment, if one may be pardoned for using such a term, mercury holds first place, eighty-two out of eighty-four placing their main dependence here. Only two depend upon neo-salvarsan alone. Salvarsan is used regularly by fifty-one, and of those, forty-four use it as their first method of attack. Sodium salicylate is used by three men as an adjunct. As to the form of mercury preferred, from ninety-one replies, sixty prefer the inunctions of the ointment, and seven others also make use of it. Twenty-three expressed a preference for the salts used hypodermatically, largely favoring it in the form of the salicylate of mercury. Two preferred the intravenous use of the cyanide of mercury and an equal number the use of the bichloride, the protoidide, and the biniodide internally. Colomel was the favorite of but one man. Suffice to say the old fashioned rubs are still very much in vogue.

The use of the iodides has been handed down to us for a long time. Our desire to use them in spite of more recent teachings to try and make our medication more specific, may be more or less inherited. No one can deny their benefit at times. It may be surprising to note that from ninety replies, seventy-seven make use of them generally in lues and thirteen do not, but of the thirteen, seven qualified their answer by using them only in the undoubted tertiary lesions and one man limiting their use to retinitis and choroiditis with exudates and gummatous iritis. We are probably in accord that the greatest benefit is to be expected in the later type of lesion. As to the advantages of the use of neosalvarsan over mercury alone, from ninety-three replies, seventy were convinced of such benefit while twenty-three had seen no benefit from the additional use of neosalvarsan.

As to the ill effects seen from the use of neosalvarsan, from the ninety-three replies, sixty-five had seen no ill effects while twenty-eight had encountered cases in which harm had been done. Listing the individual cases mentioned are the following:

1. Retinitis and associated difficultics—1 case.
2. Optic neuritis—3 cases.
3. Optic neuritis disappeared after second injection—1 case.
4. Optic neuritis—1 case with original salvarsan.
5. Optic atrophy—12 cases.
6. Hastening atrophy of optic nerve—3 cases.
7. Rapidly increasing atrophy in tabes—1 case.
8. Failing vision—3 cases.
9. Blindness—1 case—cause not specified.
10. Neuro retinitis—1 case.
11. Interstitial keratitis—1 case.
12. Uveitis—2 cases.
13. Paralysis of extrinsic ocular muscles—1 case.
14. Parenchymatous keratitis—1 case—temporarily made worse.
15. Bilateral detachment of retina—1 case.
16. Deafness—2 cases.

The reporting of such cases without definite data does not permit of any positive conclusions. Atrophy of the optic nerve constitutes a real complication but I believe the benefits to be derived far outweigh the risk undergone. Further I believe the above list gives a magnified impression of what real risk there is, for these conditions stated as caused by the use of neosalvarsan are such as might be expected from lues itself. To

blame neosalvarsan for the appearance of such conditions may be likened to the blame formerly attached by some to the use of antitoxin in diphtheria for conditions that arose and were in reality due to the toxins of the Klebs-Loeffler bacillus. It is rather an indication of the ineffectiveness of the remedy in these individual cases. Further confirmation of this view is seen in the two cases reported in which the treatment was persisted in with an abatement of the nerve symptoms. Atrophy in the para-syphilitic conditions may be hastened just as Duane mentions that mercury will at times have the same effect.

General opinion at present as expressed by ninety-three replies, is nearly equally divided as to neosalvarsan being contraindicated in involvement of the retina and optic nerve, forty so expressing themselves while fifty-three could see no such contraindication. Of the forty there were three qualifications, two limiting the same to recent cases and one to a recently developed atrophy. Personally I feel that particularly with recent cases mercury should be used first, and that if ineffective, the use of neosalvarsan is fully justified.

As to the class of cases from which the most benefit has been derived, there is a wide variation of opinion. The experience as expressed from the answers received is that in acute conditions, particularly of the primary and secondary stage, especially those involving the iris and uveal tract, the greatest benefit has been seen. Gumma of the iris as a tertiary lesion has also derived great benefit, to the same degree as secondary lesions. Thirty-two out of seventy-two particularly mention involvement of the iris and uveal tract. Eight mention parenchymatous keratitis. F. W. Lamb cites two cases of retro-bulbar neuritis with central scotoma, one of which advanced to complete blindness. After the use of neosalvarsan, both cases regained 20/20 vision.

The class of cases from which we may expect the least benefit as gained from the personal experiences of seventy-two men would be late tertiary lesions, retinal and optic nerve conditions being included here, parasyphilitic conditions, choroiditis, hyalitis, hereditary lues, particularly in children. Out of the seventy-two answers, twenty specifically mentioned parenchymatous keratitis, sixteen involvement of the optic nerve and seven involvement of the retina.

Discussion

Dr. H. B. Gratiot, Dubuque—This very able paper by Dr. Harkness leaves very little to be said. The Wassermann test for syphilis has resulted in a much better understanding of ocular syphilis, and should become a regular routine in every ophthalmologist's office. The old idea that paralysis of the ocular muscles was almost invariably specific, must be modified. In my own experience only a small proportion have been proved to be due to syphilis. In chronic lesions of the cornea, a Wassermann should always be done, and it is surprising the large percentage that we find due to a latent specific infection. In iritis it is of extreme value in separating the specific from the non-specific. In two instances I have observed a particularly acute form of iritis occurring as the first evident sign of a syphilitic infection; the secondary rash appearing in ten days after the onset of the iritis in one case, and in three weeks in the second case. In these cases the Wassermann was negative in one, and very faintly positive in the other. Later on, they both became frank positives. Optic neuritis in various forms is undoubtedly more often a complication of secondary syphilis than was formerly supposed, and I believe this fact is partly responsible for the belief that the intravenous use of the arsenical preparations is injurious to the optic nerve. I have not seen anything but good results following the use of diarsenal in cases of syphilic optic neuritis, even in very marked choked disc cases. The early use of diarsenal is indicated in syphilitic optic neuritis, because its action is much quicker than mercury, and the secondary atrophies will be less frequent. I believe that the poor results obtained from diarsenal in syphilitic eye diseases are due to the fact that we have expected too much from one or two doses. To be effective, it must be repeated at intervals of a week or ten days, until the Wassermann is negative. Mercury should also be used with the diarsenal.

Dr. C. C. Walker, Des Moines—I listened to Dr. Harkness' paper with a great deal of interest, and think he has covered the subject very thoroughly and ably. I just want to say that syphilis is no respector of persons, as well as no respector of the different tissues of the eye. I sometimes think that possibly syphilis is too frequently thought to be the cause of eye trouble. Especially is this true in interstitial keratitis, iritis and ocular motor palsies. It is not always easy to make a diagnosis of lues of the eye. The Wassermann test is the best blood test we have, but it is not always reliable, especially the negative test, which does not exclude syphilis at all, while a positive Wassermann made by a competent pathologist always means syphilis, while that may not be the cause of the eye trouble. Salvarsan I think has seen its days of greatest popularity. In acute syphilitic lesions of the eye which threaten the integrity of the globe, I think it ought to be used, because of its quick action; but in the great majority of cases I think mercury is just as effectual, and it is safer and much cheaper. The only contraindication to the use of salvarsan, however, is an acute optic neuritis or retinitis. It is my opinion that the old method of treating syphilitic eye lesions with mercury and KI is still possibly the best method and much the safer.

LUES OF THE NOSE AND THROAT*

FRED W. BAILEY, M.S., M.D., F.A.C.S.,
Cedar Rapids

In presenting the above subject, which has been assigned to me by the Chairman of our Section, I wish to state that I have nothing new or startling to bring before you. Lues is a general disease and should be treated as such. Nevertheless, we as rhinologists and otolaryngologists, have to deal with syphilis as it is manifest in the nose and throat, so a very brief review of the subject may not be amiss at this time.

Syphilis of the nose and throat may be either acquired or congenital. In the acquired form, the inoculation occurs during or, as is far more usual, after birth. The greater per cent. occur after puberty.

The etiology of this disease has been established beyond a doubt to be caused by a microorganism, the spirochæta pallida. The specific germ can enter the system only through an abrasion of the skin or mucus membrane. In the nose and throat cases, this may occur through kissing, from the common drinking cup, from unclean surgical instruments and by picking the nose with a contaminated finger nail. Cases have been traced to the common use of a pipe. Perverted sexual practices are also a factor in the throat and pharynx cases.

Primary infection in the mouth and pharynx are second in frequency to those of the sexual organs. This is on account of the prevalence of syphilitic nurses, the commoness of sexual perverts, and the frequent use of infected surgical instruments, etc.

The primary stage or initial lesion in the nose and throat does not differ materially from the initial lesion elsewhere. It begins from two to six weeks after the date of infection, and is manifest by a small papule, hard, round and elevated, with a distinct outline and a reddish grey color. This soon enlarges and breaks down, the degeneration starting in the center and working towards the edge, soon assuming the characteristic punched out appearance with crater like edges.

The secondary stage is that of mucus patches. They appear in the mucus membrane of the throat and nose as elsewhere. They are small, rounded and elevated, and of a bluish red color. They do not often ulcerate, but occasionally do. Healing takes place after a varying length of time.

The tertiary stage may appear any time from two to twenty years or more after the initial infection. The lesions of this stage of the disease are very severe, and the accompanying degeneration and necrosis cause frightful destruction of tissue, both bony and mucus. The ulcers usually become infected with pyogenic organisms which cause rapid liquefaction of tissues, and the odor from the nasal cases cannot be described with words. When healing takes place, there is always great deformity of the parts, caused by the loss of tissue and by the contraction of firm bands of scar tissue which always form.

Primary syphilis of the nose is very rare. Buckley reports 95 primary lesions in the nose out of 9058 cases. Basserau, together with two or three associates, found only 2 primary lesions of the nose in 2244 cases. The disease develops more rapidly than lupus and less so than furuncle. The lymph glands in the cervical region are usually enlarged.

Symptoms of secondary syphilis in the nose are very similar to those of ordinary cold in the head. There is a burning sensation in the nose, and the patient is usually bothered a great deal with sneezing. Sore throat usually accompanies the nasal cases, and the patient often complains of headache, especially at night.

The lesions of the secondary stage in the throat are the characteristic mucus patches, and cause considerable annoyance and pain in masticating and swallowing food. Mucus patches on the soft palate, pharynx and tonsils cause severe pain referred to the region of the eustachian tube and ear when the patient swallows. The diagnosis is usually easy because the skin lesions usually precede the mucus patch stage. Enlargement of the cervical and other lymph glands together with the Wassermann test aid greatly in the diagnosis.

Tertiary syphilis or gumma hardly ever appear sooner than two years after the initial infection. It may occur almost any time from two years on, as late as fifteen or twenty-five years or even more. In the nose and throat this stage is very commonly observed. The development is rapid and the destruction of tissue is very marked.

In the nose the degeneration and necrosis resulting from gumma rapidly destroys the septum, both cartilaginous and bony. The turbinates are often attacked, there is a rapid destruction of the tissues involved. The cartilaginous frame work of the nose melts away and the bony septum comes away in pieces. Sequestra of bone from the turbinates and adjacent parts loosen and come away or are removed, and the nose sinks in, the deformity varying directly in proportion to the degree of destruction.

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Gummata may appear anywhere in the mouth or throat, including of course the tongue, hard and soft palate, tonsils and pharynx. They are round or oval swellings, and vary in size. They rapidly break down and cause as elsewhere great destruction of tissue.

The symptoms of tertiary syphilis in the nose begins with obstruction of the nasal chambers. Pain follows quickly after the obstruction and increases in intensity as the necrosis and destruction of tissue advances. The nasal secretions become profuse and very foul. Large crusts come away from the nose, together with pieces of bone and cartilage. Often the sequestra of bone are so large that surgical interference is necessary to remove them from the nose. The nose drops in and presents the common saddle bridge nose well known as the result of the ravages of lues. If the gumma attacks the alae of the nose, there is destruction of these parts and usually formations of fibrous bands and cicatrices occur which may and often does result in partial or complete stenosis of the nasal passages.

The most serious deformities resulting from this stage of the disease in the nose are:

1. Collapse of the entire anterior third of the nose.
2. Sinking of the entire nostril so that only the slits of the anterior nose is present.
3. Destruction of the alae and complete nasal stenosis.

In the throat, the gumma is usually found upon the posterior wall of the pharynx. There is considerable pain, and the discomfort of the patient varies with the degree of severity of the ulceration. Ulcers usually appear on the soft palate and uvula and these parts are rapidly destroyed. The hard palate may become affected and the ulceration may cause perforation of this structure so that when the patient eats, food passes through the perforations up into the nose. On account of the destruction of the soft palate, liquids often regurgitate through the nose when the patient drinks.

After healing takes place, there is a varying degree of deformity resulting from the destruction of tissue and the formation of fibrous bands. The fusing of the soft palate to the posterior pharyngeal wall is a very common result, and this of course prevents nasal breathing and may completely close the eustachian tubes, interfering thus with the ventilation of the middle ear.

The treatment of lues of the nose and throat is of course general, the same treatment as for syphilis of any other part of the body.

Salvarsan is the popular and most effective remedy, especially when supplemented by full courses of mercury and iodides. Syphilis of the nose and throat yield most readily to antisyphilitic treatment because of the abundant blood supply to these parts.

309-11 Securities Building.

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Discussion

Dr. C. F. Howland, Des Moines—It seems to me that Dr. Bailey has covered quite thoroughly the field of nose and throat syphilis. I believe it is one of the most important subjects that we have to deal with today. So many of the cases present themselves where the diagnosis has been overlooked, and we treat them in our offices for a period of time, and the case is allowed to go on until we have a destructive process before the condition or primary cause is discovered. It is not the gummata of the tonsil or the well-developed gummatous lesion of the nose and throat that is hard to diagnose; it is the little suspicious lesion on the uvula, the little spot on the pillar of the tonsil, the case of mixed infection. The condylomata of the lip, the border-line cases are the ones that seem to give us the more trouble. We see a gumma of the nose with a complete obstruction of both nares, and it is quite easy to say to the patient, "You are suffering from syphilis." But we see the little ulcer farther back, and it is sometimes impossible by inspection to determine what that ulcer is. If a case presents itself with a large portion of the septum gone, extending back into the bony portions, our case is easily diagnosed, as Dr. Hyak maintains that only syphilis and malignancy involve the bony anatomy of the septum. Cases presenting themselves in the secondary lesion have so many other tendencies to be thought of that without the aid of the Wassermann, which we unfortunately are not always able to get as an aid, it is impossible to make a positive diagnosis. With a positive Wassermann we are more sure of the cause, and even then we can't always say that it is a causative factor. I think it is very important to insist upon these cases being treated over a long period of time. I think we as rhinologists see more of the supposedly cured cases—the cases that have had the six weeks or six months treatment and been declared cured, and later on come to us with a great amount of destruction, especially of the throat and nasal tissues, and are much surprised to learn that the trouble has not been entirely cleared up. So many of the men of today are quite willing to declare a patient cured if one Wassermann is found to be negative that I think it high time that we insist that they make repeated Wassermanns over a long period of time and not be content to allow the patient to go out from under

their supervision until such a time as the spinal fluid has proven negative, when they can feel reasonably sure that their case is cured. As to the treatment of nasal syphilis, of course it is the treatment of systemic syphilis. We are perhaps able to do something in the way of local treatment, keeping the parts cleansed, and are aided by the use of silver; but after all we have to depend entirely upon the systemic treatment to clear up our cases. Salvarsan has proven of great aid in checking the process, and some of the cases that a few years ago undoubtedly would have gone on to complete destruction of a great deal of the bony tissues of the nose or the soft tissues of the throat, have been checked by the early use of salvarsan; but in my judgment we are not able to cure our cases until we have used the mercury and iodides over a long period of time. I feel that we should congratulate the essayist on the thorough and systematic way in which he has covered this field.

Dr. F. A. Will, Des Moines—After listening to Dr. Bailey's excellent paper and the discussion by Dr. Howland, there seems little left for me to say. As we all know, primary syphilis of the nose is comparatively rare, and I believe it is safe to say in the great majority of cases the infection is carried by the fingers or infected instruments. The symptoms and course generally vary according to the age of the patient. In children the course is apt to be very mild. In adults, however, though the beginning may be mild, the ulcer soon becomes indurated, and in both children and adults there is a marked interference with respiration out of all proportion to the amount of swelling shown on inspection. Swelling of the sub-maxillary, sub-lingual and pre-auricular gland is an important diagnostic point when present. Otherwise syphilis of the nose does not differ so much from syphilis of other parts. Secondary syphilis of the nose occurs as: 1. Erythema. 2. Condyloma. 3. Secondary ulceration. Some observers go as far as to say that there are no secondary manifestations. This is because the symptoms are so slight that they are easily overlooked. Erythema can be and probably is generally overlooked in adults, because it resembles in almost every respect the ordinary acute rhinitis. In the infant however, it is a different proposition. The symptoms appear at or shortly after birth, and may actually become a menace to the infant's life, because, in the first place, the infant is already poorly nourished, and secondly, because the swelling of the structures in the nose soon make nasal respiration impossible. The reason for this, as pointed out by Norval Pierce, is because of the anatomical development of the infant's skull, in which the development of the brain is considerably ahead of that of the face. Now, condyloma—of the nose—is not seen so frequently as of the lips, cheeks, tongue and tonsils. The tendency is to ulcerate, the ulceration usually being superficial. However, when treated with cauterizing agents that are too strong, the destruction of tissue is apt to be extensive. **Tertiary Syphilis** is characterized by gummatous ulceration, necrosis and ozæna. It is the most common and most important form that the rhinologist is called upon to treat, not only because of the extensive destruction of tissue that may occur, with the ensuing deformity which will mark the victim for life, but also because of the indescribable stench that makes him an outcast as long as it lasts. These patients are surely entitled to all that skill and science can do for them, and even then a hideous deformity cannot always be prevented. Pierce cites a case that he saw in which the entire outer nose was gone, and the antrum, nose, left orbit and mouth formed one cavity. Of course the most common deformity is the saddle nose, but this is not always due to syphilis, as there are some cases reported in which it was due to phlegmon of the bridge. Tertiary may appear at any time from a few months to fifteen to twenty years after infection. **Diagnosis**—The four principal symptoms are obstruction, swelling, pain, later necrosis. Necrosis of the bone is so infrequent in any other nasal disease that its presence almost clinches the diagnosis. Of course the Wassermann reaction immediately occurs to us as an aid in diagnosis but we must remember that not all specific cases give a positive Wassermann. **Treatment**—Primary Form—As long as there is any doubt about the diagnosis, the treatment should be merely local. The same may be said concerning the treatment of the secondary form. Local treatment is not important in this form as in the primary and tertiary stages. Strong sprays should be tabooed, as they may only serve to aggravate the coryza. **Tertiary Form**—General Treatment—Should be promptly instituted, and in the majority of cases the manifestations yield readily to such treatment. Hygiene and diet are very important. If necessary, the teeth and gums should have attention. Alcohol and tobacco are prohibited. The skin should be kept in good condition by frequent baths. St. Clair Thompson says: "It was the custom formerly to prescribe mercury only for the secondary stage, and iodides for the third. But I have pointed out for many years that the rule was not at any rate applicable to the disease when it affected the upper air passages. Iodides are necessary for promoting absorption of specific deposits; they relieve often rapidly, but are not curative. Mercury must be given in all stages." It would seem to me that in these cases where bone and tissue destruction is advancing at a furious rate, salvarsan should be immediately employed. I know of no place in the whole domain of syphilis where more gratifying results can be obtained than in those cases where complete destruction of the nose is threatened, with the hideous deformity that accompanies it. **Local Treatment** may be almost summed up in two words: Scrupulous cleanliness. How this is to be attained is left to the individual taste of the rhinologist.

EDUCATION OF THE PUBLIC AS A FACTOR IN PUBLIC HEALTH WORK*

W. A. Evans, M.D., Chicago

I wish that I could feel that you generally thought as Dr. Snyder expressed himself, that is, that the health of the people in your communities was the greatest asset of your state.

I have been a health officer of the City of Chicago, I have been in health work for a great many years and I am very firmly of the opinion that we do not regard the health of the people or even the life or the well being of the people, as the greatest asset of a community. I am sure that you think this true. I am quite certain that when you make the statement that Dr. Snyder has made that you are honest and sincere, and yet when we apply the acid test we find that the results are not in conformity with the statement, for I read in a pamphlet that was on the table in the lobby of the hotel that billions were spent for paving. Do you read of where a billion or any considerable fraction of a billion dollars was spent for health conservation?

There are various other tests that we might apply that would be equally illuminating. For instance it has been absolutely demonstrated, there is no possible escape from the truth of the demonstration, that small-pox is unnecessary. And yet, I dare say there isn't a mayor in this hall, whose town has an ordinance that would be calculated to absolutely prevent and control small-pox. There isn't a community represented that has such a health administration as would absolutely prevent small-pox and yet it is absolutely certain that small-pox can be prevented, it is absolutely certain that it has been prevented over a long series of years in large groups of men.

Take typhoid fever: If you count up the loss of money, the loss of men in the community in the aggregate, you will find that it means more than your fire loss. Typhoid fever is an absolutely preventable disease. There is absolutely no excuse for typhoid fever, and yet you all have it, and in all probability the loss from typhoid fever aggregated is greater than your aggregated fire loss.

Suppose we apply some simpler test. You have a fire department for the protection of members of your community and you have a health department for the protection of the health of your people. What is the comparative expenditure in your community?

You have a police department to protect your people against violators of the law, in a measure to provide a certain degree of protection for the members of your community, to provide for a greater protection of life and limb, and you have a health department to provide a greater security for that life. What is the comparative expenditure of your health department and your police department?

Do we consider our lives and our health and our working capacity as our greatest asset? And yet I think that fundamentally we do. The difference is this: We regard health, life and well being as so fundamental and necessary that we assume that every individual will look after his own health or that of his own family.

There should be community of action against lawlessness and community of action against fire. We assume that there is no community of action against disease and the proof of this fact is just as demonstrable, and just as logical, and just as convincing as that typhoid fever is absolutely unnecessary as well as absolutely useless; just as demonstrable, just as logical, and just as convincing as that small-pox is absolutely unnecessary as well as absolutely useless.

It is due to the fact that not only those in the field of preventive medicine, but also the men who are in the practice of curative medicine, have not had the proper comprehension of the situation and it is in great part due to them.

What we are trying to do just now is to overcome this: We have a national health association, or a national association known as the American Public Health Association. This organization began back yonder fifty years ago, began by reason of the necessity of combating a disease which to us now is simply a matter of legend. About fifty years ago cholera arose in this country, paralyzing its energy and producing an injury which neither fire, earthquake, storm or war was ever more devastating. Under the influence of fear and horror, a group of men gathered together to combat the disease; and when they had accomplished this and controlled cholera, they turned to another disease which at intervals visited the United States and caused so much injury, that is yellow fever.

Yellow fever forty years ago appeared in the United States and for four months out of every year the country was absolutely paralyzed by reason of yellow fever. And this association, the men who gathered together and others who were acquainted with it, developed methods by which this disease could be prevented.

*Address delivered at First Annual Short Course for Health Officers, State University, Sept. 19, 1917.

Now this association has gone on another type of protection. The protection is now against those diseases which are right among ourselves. They recognized the fact that if they were to make any headway against the disease they would have to do more than build encircling walls of protection, the protection must come from within. That they must not work from autocracy, they must work this out from democracy, they must go with their proposition directly to the people themselves. And so they are now forming city health societies, and after this local health communities will be organized.

The proposition is held that the people who are interested in preventing disease, ought to organize themselves to prevent disease. I simply mention and in some measure develop the idea that will be brought to your attention later on.

I attended a lecture by one of the law staff of the university this morning, where I learned that the real back bone of the city health department is the mayor and council, or in other words the ordinary measures of civil enactment are inadequate, inasmuch as you have not developed the machinery for the prevention of disease apart from your mayor and council or your board of supervisors.

Some of you have noticed that you have not heard any new health slogans lately. About seven or eight years ago we had a flood of health slogans, for instance "swat the fly." You may have noticed that no new ones have been launched recently. My reason for this is that the slogan business was overdone. The most effective work is done by the use of slogans. I think that particularly the slogan "swat the fly" has done more to put forward knowledge concerning flies and the harm done by flies, than any treatise by any group of professors that was ever written.

When you are going to people with something which is to them of secondary importance, you cannot get by unless they see a real value in it. You can catch their interest with such a slogan as "swat the fly" where you could not by a treatise on the development of flies. The statement I made was that we launched a flood of slogans. Now the slogan must be effective. You cannot put over several slogans simultaneously. You can get every one to say "swat the fly" or any other single slogan, but you cannot get them to make use of several slogans simultaneously. A practical suggestion from this is that it is desirable to put a lot of thought on the selection of your slogan and when you have selected it, to give it constant repetition. When it is first heard by an individual, he pays no attention to it, but when he has heard it several times he begins to accept it as a part of his habit.

A few of the qualities of the slogan: It must be of wide interest, must be catchy, it must be worded well, must mouth well, it must suggest to the mind a positive rather than a negative value. You cannot put over a slogan if it suggests something negative. It must not be a suggestion that something must be done. Not "you shall not do so," but "swat the fly." It must suggest action, definitely and forcibly, even if inelegantly.

I am sure that when you read there was to be a statement on the education of the public in health matters, your minds travel back to the documents that are put out by the State Boards of Health and the National Public Health Service. If you have those in mind you will remember that they are treatises. They are all right in their way. They appeal to certain people. They are worth the money spent for their publication, provided they keep their object clear in mind. They tell you how the bacteria grow and so on down the line. In such they are authority to practicing physicians, of some value to visiting nurses and school teachers. The money expended in circulating such documents by boards of health to physicians, nurses and school teachers, is money well expended. They are of no value to the average man on the street and the money expended in publishing such a document to reach the layman is money wasted. We must keep to the line of cleavage as to what is the proper and the improper use of such a document.

I think one of the most efficient means of reaching the people is by the use of space in your newspapers. In certain places there are preparations for the education of the people through the newspaper, or in other words the laws in these states permit a certain amount of advertising to be taken and paid for, to be used in carrying on educational propaganda in the control of preventable diseases. In a great many places the preparation of the articles is gratuitously provided, either by the health officer or some member of the medical profession, and the white paper cost and circulating cost is borne by the newspaper.

I think the greatest educational force is the newspaper. What is a newspaper? A newspaper is an organized gossiper of the community. If communities can do their own gossiping, newspapers do not thrive, but whenever a community grows to be of such a size and whenever for any other reason the machinery of personal gos-

sip is ineffective, then the newspaper comes into its own. People read newspapers, and they are read by just such a group of people as you want to read them.

If the health articles are to be effective they must be certain, they must have authority, must be authoritative in that they must be signed by some one. There has been so much promotion by patent medicine people that the people are leary of statements by newspapers. The people are not disposed to believe all they hear or read in newspapers. This shortcoming must be overcome by someone whom the community recognizes as an authority.

The articles must be authoritative from another standpoint. They must bear evidence that they are written by some one who knows what he is writing about. People can judge of personality by the writing. You cannot have these articles discuss subjects that are uncertain. There cannot be an uncertainty in them. They must be composed of statements that are correct if not dogmatic. In my judgment, Dr. Harvey Wiley has an authoritative method of presentation. You will see that his statements are made in an authoritative way. Some of us do not agree with his conclusions, but we will read an authoritative presentation in what he writes.

There are other methods of presentation. The medical article should secure the attention of the reader by being entertaining, and having got the attention of the reader by being entertaining, it should put over some two or three lessons. Catch the attention of the reader, and having his attention, drive home two or three health lessons.

I believe that Terry in the Delineator is developing the idea of being entertaining in his presentation better than any other medical writer.

There is this danger however: a man who has undertaken this work should not let the people get the impression that they are being trifled with, or that the writer is trifling. The reader thinks that it should be treated as a serious matter. It will lose its effectiveness, its force, if it destroys that fundamental idea or runs contrary to it in any way, and your health articles become ineffective.

They should be just as gossipy as you can make them. If you can write them about an individual, so much the better. Personal interest adds to it. I think that it is rather clever if a personal reference can be made locally, or about some one who is known. There is an appeal to the gossipy instinct which every one of us acknowledges.

Medical men have a long time appreciated the value of what is known as the clinical method of demonstration. They will remember the case as similar to that some one else has at a certain time, etc. It is one of the most effective methods of presentation.

A word or two about moving pictures. I am sure that the world over that at the present time the moving picture is the greatest educational force in the country. In my opinion the greatest educational machinery for details for adults is the press, for children the public school, but for adults the public press just now and perhaps permanently should make use of some punch.

We have a moving picture entertainment and we advertise it as a health picture, and the people who come to it are the ones who are interested in public health. It does not appeal to the careless, indifferent people. If you advertise a health lecture on this side of town, these people will go over to the other side of town. The lecture must be short in order to be appreciated.

We thought if one reel could be shown in a moving picture house unannounced, shown as part of the afternoon or evening entertainment, this difficulty might be overcome. In fact we tried this. We put a series of health pictures in a grip and gave them to one of our men to take around to the various moving picture houses, with instructions to stick strictly to one health reel and then go away. In that way he got the attention of those who are indifferent. Had he shown two reels, some one would have gone. As it was, some went at the first showing.

The object not only of the moving picture method, but of most of these methods, is to reach the indifferent people. We must not come to them in an attitude of preaching or lecturing, we must reach them from their point of view. In other words, any effective newspaper articles must back up some point of the health lectures which will make an avenue into their minds, and trust to the story carrying with it.

You come from the State of Iowa, one of the most prosperous states in the Union. You have every right to be self-satisfied in Iowa. I think we have every right to be self-satisfied all over the country. If ever there were a people who idly drift it is the American public. We have had a season of incomparable prosperity. We are in a continent in which there is resource such as is possessed by no other country. For thousands of centuries before we came, the atmosphere was working and got the soil fertilized, and we were satisfied with conditions as our forefathers found them when they came from their Euro-

pean homes, and for centuries we have been coining these soil resources in dollars.

Hundreds of centuries before we came, God had built forests here that we might have fuel, and folded these forests and built them into coal. We have mined these mineral resources—gold and other minerals—into golden dollars, and moreover, we have now the opportunity for individual and collective development of more resources, of power not developed by us, for making us the most powerful as well as the most resourceful of all the nations of the world. Yet we are drifting, and I think that you in Iowa are as much entitled to drift as any one I know. It has come home to us from a new point of view, in a new way with the outbreak of this great holocaust, this greatest war of all civilization. And those whose judgment is just, those who have studied it, who have thought most carefully and most accurately, are of the opinion that our idle drifting has come to an end. The time has come when we must plan if we are to get over, and we must come to the conservation of the health of our people.

Though we may not have realized it, we must learn from our enemies whose capacity for learning is really miraculous. And now let us think back, a great part of this is planning to conserve human lives, planning to conserve human beings. Measures were inaugurated in Germany as a general plan after the Franco-Prussian war about forty years ago. The plan was adopted by England some ten years ago, but not until after it had been demonstrated in Germany for about thirty years. Now if we are wise we will learn from our enemy. If we are wise we will put through our furnace everything. We will keep the gold and will apply it to the working out of our own salvation. We must realize that if democracy is to survive, we absolutely must conserve our man power, and that we cannot live if we continue to drift as we have before.

You are in a very healthy state out here in Iowa, and why? Because in a greater measure you have not been a crowded state and God has been good to you. In some measure you have looked after your own. But you have to consider your sickness and your death rates. You will be surprised at the great mortality which exists. Where men are herded together thousands to the acre, the mortality is greater, yet do you know that London has a lower death rate than practically any state of the Union, due to the fact that they have planned better, and health departments naturally develop with years. No young community has a well developed health department.

I dare say that the average citizen in this state goes about his business, relying upon the resources of his own capacity or relying upon the resources of his government. If I am a good citizen, I vote for the best man. If small-pox invades my home, I rely upon my friend for whom I voted to protect me. The average man in this state, as in the State of Illinois, does not consider that if anything is to be done that is really effective, it must be done by a group of physicians, or by mayors and councils or health officers, or by any other delegated authority.

A great deal of the preventable diseases are either the result of faulty customs or faulty habits. What your health departments are doing is attempting to control these diseases that are the result of faulty customs. Have you typhoid fever? Why do you have typhoid fever? Because God is cruel? Because of any visitation of Providence? No! You have typhoid fever in your community because your customs make for typhoid fever. You will quit having typhoid fever when you change your customs, and it will not quit until you have changed your customs. You have small-pox. Why? Because your customs are at fault. You have as much as your customs entitle you to have. You will not have it when you no longer deserve it.

If a case of small-pox comes into your community you are unable to prevent that. Have you the custom of being vaccinated? Since it is not a universal custom, no! If you change your custom in that particular you will not have any more small-pox; and that is very true in regard to typhoid.

Your death rate among babies is due to your general methods of handling babies. Now do you want to know what the health departments are after? What they are after is to modify your customs in such a method, in such a way, so you will no longer deserve disease. Our improvements in general are better. A child's life is safer than child life has ever been in the history of the world. Statisticians tell us that the mortality has become greater in adults as the result of such faults, as diabetes, Bright's disease, apoplexy and heart disease, and these are the results of faulty habits, faulty eating, drinking, smoking and sleeping habits. They are all the results of faulty habits.

Now the next great development of health work is to be against this group of diseases, and if there is to be any headway against this condi-

tion, it will not be gained by jostling against apoplexy as a disease, but by bringing about the change in the habits of the people. Now then if you have gotten this in your mind, I am trying to persuade you to change your customs, trying to persuade you to change your habits. Gentlemen—I submit this as plain common sense.

No movement that is not made with a view to persuading the people to change their customs or habits will succeed unless it comes from the people themselves. You cannot persuade the people to change their habits as a result of legal action by state boards of health, you cannot persuade them to change their faulty habits by the acts of a mayor, a chief of police, or a local health officer. You can only persuade them as they see the need. And the very corner stone of all health work must be education.

THE ROENTGEN DIAGNOSIS OF GASTRIC LESIONS

Lowell S. Goin, M.D., 1st. Lieut., M.R.C.,
Roentgenologist, Reynolds Memorial Hospital,
Roentgenologist Martin Ferry City Hospital,
Wheeling, West Virginia

The differential diagnosis of diseases of the stomach has long been a stumbling block to the medical profession, but as the science of roentgenology became perfected, many of the difficulties formerly encountered have been removed. I speak here of the stomach and duodenum, as the duodenum is so closely related to the stomach, both anatomically and physiologically, that they must be considered together. The roentgenologic diagnosis of gastroenteric lesions is only in its infancy, but has already become a well nigh indispensable part of a thorough examination. The time is undoubtedly near when a surgeon will no more think of operating upon a stomach without an x-ray examination than he would of omitting palpation or inspection from his examination.

In a paper of this character it is obviously impossible to consider the entire gastrointestinal tract, and I will confine the discussion to the diagnosis of gastric and duodenal ulcer.

A thorough examination of the stomach or duodenum, however, must include the examination of the entire tract and should extend over twenty-four hours. It is often difficult to get the patient to undergo so long an examination, and if impossible to obtain a twenty-four hour examination, twenty or sixteen hours will often give satisfactory results.

The patient should be prepared by a mild catharsis and should present himself fasting, preferably in the morning. A light meal of toast and coffee or milk does not interfere with the examination.

It is necessary, in order to visualize the gastrointestinal tract, to administer an opaque salt in some form of suspension media which is not disagreeable. There are many meals, nearly all of which are open to severe objection. The meal first used, and the one most used today by European workers, is sub-nitrate of bismuth in bread and water. The great objection to this meal is that it does not fill the duodenum well, and practically never enters the appendix. Bismuth or barium in mush, potato gruel and other modifications have been proposed. The majority of men today use barium sulphate and water. This, however, is a very unpalatable mixture, and the salt soon falls to the bottom, leaving the fluid above. The best opaque meal, and the one being adopted by the leading workers, is barium sulphate and buttermilk. This makes a meal which is palatable, cheap, obviates the danger of arsenic or nitrite poisoning, is perfectly inert, having no tendency to produce constipation, and one in which the salt stays in suspension well, and which fills every crack and crevice in the gastrointestinal tract. Whatever meal is adopted should be strictly adhered to, as the conclusions based on one meal may not apply to another.

The examination is begun by the fluoroscopic examination. This is carried out with the patient erect. The meal is divided into two parts, the first of which is given to the patient, and is drunk under fluoroscopic control. The food is seen passing down the esophagus, and any obstruction, diverticulum or other defect is at once seen. The screen should then be passed down to the stomach level, and the readiness with which the stomach fills should be noted. Any constriction as an hour glass stomach, or any filling defect is noted, the stomach is explored for tender points and the position and condition of tone type and strength of peristalsis is noted. Too much significance should not be attached to the presence of tender points, as they are generally found to be very misleading.

When an apparent hour glass stomach is noted, great care must be used to rule out spasm. It should be remembered that the stomach is the favorite playground of spasm, and that the spasm may come from a source entirely outside of the stomach, as a diseased appendix. The organic hour glass construction when found is, of course, of great importance. It may be due

either to a malignant growth or to an ulcer. The deformity due to ulcer usually has its canal near the lesser curvature, and is very uneven. That due to malignant growth is more regular, and the canal is apt to be in the middle of the stomach. A suspected hour glass should be studied for some time, and an effort should be made by massage and palpation to relax it. Should this fail, and the character of the deformity be in doubt, belladonna should be given to its physiological effect. Any functional spasm will relax under such treatment. Apparent defects caused by pressure from a gas filled colon must be carefully differentiated from organic defects in the stomach wall. In case there is serious doubt, an opaque enema will usually clear up the case.

Cole describes seven types of peristaltic waves. The one cycle type consists of one wave of peristalsis passing from the fundus to the pylorus before the next wave begins. In the two cycle type, the second wave begins before the first wave has reached the pylorus. In the three cycle type, the third wave follows the second, and is seen before either the first or second waves reach the pylorus. Four, five, six and seven cycle types occur, and follow the course just described. It is well to remember this when there is an apparent constriction in the stomach. We may have from one to seven contractions present at once in a perfectly normal stomach.

Hyper-peristalsis is usually observed in a hyper-tonic stomach. Such a stomach is commonly small and high in the abdomen. The waves are very violent, at times almost cutting the stomach in two. Such a condition is considered among the diagnostic signs of duodenal ulcer. The absence of peristalsis is rarely met with. It occurs in extreme atony, and in the so-called leather bottle stomach of advanced carcinoma. Reversed peristalsis is rarely met with. I have never seen it. The hyper-tonic stomach is usually placed high in the abdomen, is small, and often associated with hyper-peristalsis. Such a stomach often fills with apparent difficulty. Careful observation will show that the difficulty is not real but apparent and is associated with the spasm. The atonic stomach is relaxed, and usually lies low in the abdomen. The meal drops to the bottom of the stomach at once and has a half moon shape.

In general the position of the normal stomach depends upon the type of individual. The stout well nourished patient has his stomach high in the abdomen, while in the thin individual, without abdominal fat, the stomach will be very low.

There has been much discussion and argument as to the respective merits of fluoroscopy and plates in stomach work. Those advocating fluoroscopy point out that a plate represents the stomach only at one very brief period of its function, while it can be studied at length by the screen. There is some truth in this, and undoubtedly, in the study of large defects, hour glass contraction, etc., the screen is of great value. The diagnosis of the more common types of stomach lesions, however, is a matter of detail, of minute changes in the outline of the stomach, and it would be very difficult to see these in a screen examination. There is much valuable information to be obtained by this method, however, and it should be used in conjunction with plates in every case.

The so-called indirect school arose from the work of Holzknecht. He originated a number of symptoms complex, on which he made his diagnosis; for example, a small bismuth residue after six hours, a normal shadow on the screen, and achylia. Diagnosis—a small carcinoma of the pylorus. This, however, is not very exact. A six hour residue is, at times, seen in a normal stomach. Achylia may be associated with other conditions than carcinoma. It is hardly possible that a pyloric carcinoma of sufficient size to produce obstruction could exist without demonstrating on a series of plates, a constant pyloric defect.

The so-called direct school is founded upon the work of Lewis Gregory Cole of New York. It depends for diagnosis upon the actual demonstration of the lesion upon a series of plates, giving the symptomatic manifestations second place. I believe it to be more accurate than the indirect method.

Before taking up in detail the diagnosis of gastric and duodenal ulcer, it will be well to consider the normal stomach and duodenum. The size of the stomach depends absolutely upon the contents. It should always be borne in mind that the stomach is always full. When empty, its walls are in contact except for the fundus, which is occupied by the so-called magenblase, or stomach bubble of gas. Its shape is variable and usually has no significance. Many types have been described, as cow's horn, J shaped, fish hook, and text-book type. None of these terms have any pathological significance.

The stomach is divided, from a rœntgenological standpoint, into the fundus, pars media, antrum and pylorus. On the lesser curvature, between the para media and antrum, is seen the so-called incisure angulara. This is an incisure of varying depth, is normal, and should not be con-

fused with a defect. The contour of both curvatures should be smooth and unbroken except by peristaltic waves.

The appearance of the pylorus depends upon the strength of the pyloric sphincter, and the position of the peristaltic wave at the moment of exposure. It is seen at times as a clear space between the duodenum and stomach, at others as a narrow ribbon of food passing across, and again the contour may be unbroken from the antrum to the cap. Pressure from the colon may deform the outline of the greater curvature. When plates of thin individuals are made in the prone position, apparent defects may occur in the pars media. This is due to the pressure of the spine, and is readily overcome by making an exposure with the patient in the upright position.

The first portion of the duodenum is closely related to the stomach, and is usually called the cap, because it appears to sit upon the pylorus. It is normally triangular in shape with the apex upward, and the outline is smooth or unbroken. The second portion is seen running to the right and downwards and the third or transverse portion to the left.

It is rather difficult to satisfactorily visualize the duodenum upon the screen. At times it fills poorly. This can be overcome by having the patient to lie upon his right side for a few minutes. The duodenum should be shown normally filled within one hour of the meal if it is normal and is involved in no adhesions. To this there are no exceptions. Occasionally the duodenum can be shown only in the upright position. All of this refers to the first portion, or cap of the duodenum.

For our purpose we may divide gastric ulcer into three classes; the indurated, the penetrating and the perforating. The indurated ulcer is the most common and the most difficult to diagnose. The penetrating and perforating ulcer are less common, and the diagnosis is more easy. In the penetrating ulcer, the inner coats of the stomach are destroyed in the area involved, and the weakened outer coat is distended, forming a little sac or pouch which may have a large sinus connecting it with the stomach cavity, or may have a sinus so small as to be invisible. With the patient in the erect position, a bubble of gas is usually seen above the food. The bismuth often remains in the pocket long after the stomach has emptied itself, or may empty with the stomach, depending upon the size and patency of its connecting sinus. This is the so-called "Haudeks Niche," and when found is unquestionably pathognomonic of ulcer. It is commonly seen opposite the sinus, connecting the two sacs of an hour glass stomach. The whole picture just described, is not often seen.

The perforating ulcer is seen as a fine stream of opaque food passing through the stomach wall. It has the appearance of being ejected from a hypodermic syringe. Under the fluoroscope the bismuth can be seen passing through the wall with each peristaltic wave. This is also pathognomonic of ulcer when found, but is among the less frequently seen types of ulcer.

When a peptic ulcer is formed, nature makes an attempt at healing, an infiltration occurs, and finally there results an area of induration which may be any size from as large as a pea, to an area covering a large part of the stomach. This is the indurated ulcer, and is the type most commonly seen. Its diagnosis is difficult, and possible only by minute attention to detail.

We may consider first the indirect or presumptive evidence of ulcer. This consists of pyloric spasm as evidenced by a period of delay before the stomach commences to empty. The normal stomach is empty in six hours, but the spasm causing a delay results in a residue after that time.

Spasm of the circular fibres in other parts of the stomach, is evidenced by incisura, usually on the greater curvature. If this spasm is persistent, it has a certain value, as most ulcers are accompanied by spasm of the circular fibres in the same plane as the ulcer. It must be constantly borne in mind that this incisura is a spasm, and that it, as well as the pyloric spasm just described, can be produced by purely extrinsic causes, such as a diseased appendix, or even by nervousness.

Decreased motility of the stomach results in a residue being present at six hours. Too much reliance should not be placed on this, however, as atony, or simple spasm may produce it, and indeed it may be present in a perfectly normal stomach. A residue at eight to ten hours, however, is worthy of serious notice.

The various abnormalities of position, shape and tone of the stomach, are sometimes considered as evidence of gastric ulcer. They are usually without diagnostic value. The same statement applies to tender points over the stomach.

The direct diagnosis of indurated ulcer depends upon first, the demonstration of the area of induration about the ulcer, which is usually from one-half to two inches in length. When a peristaltic wave reaches this area, it becomes submerged, so to speak, and reappears on the other side of the area; that is, the indurated area

is passed over by the wave. On the radiographic plate, this is seen as a sharply defined clear cut area, contrasted with the slightly blurred outline of the rest of the stomach. The so-called polygram is of considerable use in these cases. The patient is instructed to hold his breath and a flash of about one-half the correct exposure is made, and after an interval of from five to nine seconds a second exposure is made. On such a plate the stomach will show two outlines, corresponding to the position of the peristaltic wave at the moment of exposure. Over an area of induration however, only one sharp outline will be seen, the peristalsis not having changed the relative position of this area. Such an area should be constant, and should be demonstrated on a number of plates over an interval of at least two hours, and it should also be borne in mind that one normal shadow is more conclusive than ten apparently abnormal ones.

It may be asked, can no other condition produce such a shadow? Theoretically, of course, other conditions may give a similar appearance, but practically, no. A new growth can produce an induration, but the picture described is not the picture of a new growth.

About 80 per cent. of all ulcers occur on the lesser curvature, but it must be remembered that they do occur on the greater curvature and the posterior wall. Since they can be seen only when in profile, it is at times necessary to make a radiograph of the stomach laterally. This is done with the patient on his side, the plate against the right side. The changed relation should be borne in mind.

The second point in the direct demonstration of the ulcer defect, is the finding of bismuth in the ulcer crater. It is often difficult to demonstrate it in an ulcer the crater of which is very shallow. It is sometimes useful to give a watery mixture of barium, turn the patient from one side to the other, and then make the radiograph with the patient standing. The barium rapidly precipitates in a watery mixture, and the ulcer crater is coated with the salt. When seen, this is pathognomonic of ulcer.

The third factor in diagnosis is the demonstration of pyloric obstruction other than new growth. This requires careful study for the purpose of differentiating pyloric obstruction and pyloric spasm. When it can be shown that the apparent obstruction is really an obstruction and not a spasm, the diagnosis becomes more easy, as the obstruction due to new growth presents a characteristic picture which is not likely to be mistaken for ulcer. When a residue remains in the stomach for more than twelve hours, it is very possible that it is an actual obstruction that is being dealt with, as spasm and simple atony rarely, if ever, produce a residue at this length of time. A small residue at six hours is of doubtful significance, but a residue of considerable size, as one-third to one-half the meal, is significant. Such cases should be examined at eight, ten and twelve hours. Occasionally a residue is seen after twenty-four hours.

Rœntgen examination of the stomach following gastroenterostomy, has shown that it is only with the greatest difficulty that the pylorus can be induced to remain closed. Within six months after the pylorus has been sutured, ligated, crushed, and various combinations of these procedures, x-ray examination shows it to be open. This does not occur in every case, of course, but in a very large number. LeWald of New York, reported eighty-six cases observed by him, of which number food was passing through the pylorus of every one six months after operation.

From a physiological standpoint, the stomach and first portion of the duodenum are one organ, and the diagnosis of duodenal ulcer and gastric ulcer are closely related. A penetrating or perforating ulcer of the bulb gives the same appearance as in the stomach. The more common indurated type varies somewhat. There are here also the direct and indirect signs. The direct manifestations are more confusing, in that they have to be distinguished from those caused by adhesions.

The indirect signs are hyper-peristalsis, six hour residue, hyper-motility and hyper-tonicity of the stomach. Hyper-peristalsis is of some value when found, but does not occur in more than one-half of all cases of duodenal ulcer. The six hour residue is not of much value, and if there is an ulcer causing enough difficulty to produce a residue, it is quite likely that it may be diagnosed by other and more reliable means.

Hyper-motility also occurs in gastric carcinoma and certain neuroses. It is of value as a confirmatory sign.

The direct method consists of demonstrating on the rœntgen plate the anatomical condition of the first portion of the duodenum. George of Boston, Cole of New York, and others have laid down the following axioms, which are borne out by the experience of many others.

1. Ninety-five per cent of all duodenal ulcers occur in the cap.

2. Anatomically the first portion (or cap) of the duodenum is a constant entity, and can always be demonstrated on a plate in its character-

istic form when normal. This is without exception.

3. A constant defect indicates a pathological condition, ulcer, adhesions, pressure, new growth, etc.

4. Any duodenal ulcer which is more than a simple mucous membrane erosion, will deform the outline of the bulb. This is without exception.

5. A normal bulb shown on a plate rules out an indurated ulcer. One exception must be made to this and that is the minute recent ulcer which perforates without prodromal symptoms. This, however, is very rare.

The deformity due to ulcer may be differentiated from that due to adhesions. In adhesions, no matter how extensive, the deformity is greater at the beginning of the examination, lessening as the stomach empties. The stomach when just filled will be found in the sub-hepatic region, but as it empties will move back toward the median line. In ulcer, the degree of deformity remains constant.

The deformity due to pressure is smooth, regular, and lessens as the meal progresses. The most common type is that due to a distended gall-bladder.

A diverticulum of the duodenum is sometimes seen and is unquestionably pathognomonic of ulcer, but unfortunately is very rare. It is probably not due to penetration but rather to adhesions about the ulcerated area exercising a pulling effect on that region.

In conclusion we may say that the positive diagnosis of gastric and duodenal ulcer is entirely practical.

That excepting gross defects, reliance should not be placed in fluoroscopy only. That it should be possible to demonstrate the defect directly on the plate.

Much information can be obtained regarding the character, location and extent of the ulcer, and may offer the surgeon information in advance as to the character of operation to be performed.

THE RELATION OF COMMUNICABLE DISEASES TO THE COMMUNITY AND TO THE PHYSICIAN*

Mark F. Boyd, M.S., M.D., C.P.H., Iowa City

The control of communicable diseases has long been recognized as a problem of vital interest to a community for reasons that are obvious to the members of this audience. They are likewise of interest to physicians because of the questions of etiology, diagnosis and treatment involved, but most important, questions of their suppression involve both the community and the medical profession. It is this aspect which we desire to discuss.

As the nucleus of an organization for community defense, boards of health were early established. In the early days of the development of public health work, environmental influences were believed to be responsible for disease of this character, but with the development of the science of bacteriology, the importance of the infected individual has now been widely recognized and environmental influences are now seen as matters of secondary importance. As a result, efficient modern public health practice by health officials now depends upon a prompt knowledge of how, when and where cases of communicable diseases are occurring. With this knowledge available, the desired results can be secured, in its absence the efforts of health officials are largely wasted.

In securing this knowledge, practicing physicians can serve as the scouts of a communities' health organization, and to insure this information becoming available to its officers, communities must demand that practicing physicians make prompt report to the proper authorities of all cases of these diseases observed by them. While the information so received is invaluable in health work, yet it will be presently shown sole reliance cannot be placed upon it.

The results which a community will receive from this information next primarily depend upon its degree of utilization by health officials. The first application is the prompt and effective isolation of the infective individuals by legal means, so that where co-operation cannot be secured, isolation may be enforced. Successful accomplishment of isolation without resort to punitive measures depends largely upon adoption of just regulations and their tactful enforcement by officials. The individual so unfortunate as to be infected, and hence confined as a measure of community protection is not a law breaker or criminal, and must not be handled by similar measures unless intractable. Intractability however will largely disappear when effective measures are adopted and enforced with tact. Officials must inform their public of the reasons and necessity for the measures employed in order to secure full co-operation.

After the recognized infective individuals have been isolated, the efficient health official must then promptly ascertain the susceptible persons

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exposed to these cases and arrange for their isolation under observation for the incubation period of the disease concerned.

The application of these measures alone will not assure success. The mild cases, fully as infective as the typical, are less frequently observed by physicians and hence may escape recognition and report. The same is true of carriers. The ascertainment of the sources and active routes of infection existing in a community calls for the collection of the epidemiological history of each known case of disease and the careful analysis of all the case histories collected. By this means can the health officer ascertain where the sources or active routes of infection exist, and can promptly direct his energies where required. By these means will he ascertain the social groups where cultures must be taken, to discover unrecognized infective individuals, or be able to distinguish whether his typhoid cases arise from fingers, food or flies. Appropriate measures, some of which have already been presented, must then be applied.

Having recognized and isolated the local sources of infection, the community and its officials are then confronted with the duration of the period of isolation which must be required. This with the more readily communicable disease must be maintained for the entire duration of infectivity, and with the less readily communicable diseases, in the case of prolonged infectivity, be modified under official supervision. Infectivity and the cessation of clinical illness frequently do not co-incide, a fact that is sometimes lost sight of by physicians and is usually not realized by the laity. Where possible the isolation should be continued until the cessation of the individual's infectivity as shown by bacteriological examinations. Where bacteriological aids are lacking, the best clinical judgment must be the guide with an added time factor for safety's sake.

In every event the responsibility for the inauguration, maintenance and release from isolation should rest with the health officials. Unless this responsibility is placed squarely upon the shoulders of the health officer, uniformity in the local maintenance of isolation will never be secured. In our own state there is a tendency to place this matter in the hands of the attending physician. From the standpoint of successful disease control I believe that this cannot result otherwise than in continued dissatisfaction. Different men will vary in their understanding and interpretation of any clinical observations as well as in the interpretation of regulations. In this respect physicians are not different from other men. Some physicians will employ all the bacteriological aids possible, others will rely chiefly upon clinical signs. The operation of these factors will not result in a uniformity of administration. Some cases will be prematurely released, that is while still infective, others will possibly be kept in isolation longer than necessary. Furthermore, such a procedure does not enable the local health officer to keep closely in touch with the situation. We will refer elsewhere to the bearing the relationship of physician and patient has to this point.

The physician serving as part time health officer, who is at present the typical health officer of the state, not infrequently finds that his dual capacity brings him into difficult situations, both with his professional brethren and with the community in which he practices and serves in an official capacity. Professional jealousy, the bane of our profession, is too often the direct or indirect cause of these situations. Entirely apart from such friction, the part time health officer frequently finds that his practice shows slumps or increases in inverse ratio to the zeal displayed as health officer. Furthermore entirely apart from the difficulties of the part-time health officer as an individual, this question is immensely important from the community's standpoint. Most communities fail to realize that in retaining a physician as part time health officer at a very nominal remuneration, they not infrequently fail to receive any greater service than for which they pay. This circumstance cannot be held up in criticism of a local health officer, for any man who has to depend on his own activity for his income will naturally devote the greater share of his attention to the activity which brings in the largest revenue, in this case, his practice. If a community desires part time service, the duties of the office and time allotment for this work should be specified and remuneration should be based accordingly. More satisfactory from the standpoint of the community however, is the whole time health officer. The community that demands a whole time incumbent in this office can secure a man trained in public health work. His entire attention is devoted to the protection of and promotion of the community's welfare. By reason of his position, such a whole time man is at once removed from the net work of professional jealousy that trips the well meant endeavors of the most valiant part time health officer. On the other hand, one cannot help thinking that the present deplorable condition of the part time health officer is due very largely to the apathy of the medical profession, from

whose ranks are recruited these public officials.

In requiring reporting of cases of these diseases, officials must adopt measures to check the accuracy and completeness of the reports received, in order to determine that physicians are not shirking a legal responsibility. Failure to make a prompt report must not be tolerated. For the assistance of physicians, reporting should be made as easy and convenient as possible. Stamped report cards should be furnished. A uniform method of reporting should be used for all diseases. Public facilities for the diagnosis of these diseases by laboratory methods should be provided to supplement clinical methods. To physicians a prompt diagnosis of a communicable disease is essential from the standpoint of rational treatment. From the standpoint of the community a prompt diagnosis is necessary from the standpoint of public protection. Such facilities are also needed in determining the duration of the period of isolation. Hence laboratory facilities must be conveniently provided.

When the question of the diagnosis of a communicable disease arises, the practicing physician must not be conservative from a diagnostic standpoint, but must be conservative from the public health standpoint. That is, a physician should not hesitate about reporting a disease presenting symptoms suggestive or suspicious of a reportable disease simply because he is unable at that time to arrive at an accurate diagnosis. Notification laws or regulations should require the reporting of such cases in addition to the typical cases. The protection of the community demands that such a case be handled as regulations concerning the disease suspected require, until such a time as an accurate diagnosis can be achieved.

In the patient's family, the physician in addition to directing the treatment given the patient, should direct and supervise the collection and proper disposal of the various infective bodily secretions and excretions of the patient and should supervise the proper isolation of the case within the home of the invaded family. The qualifications and ability of the physician are as well demonstrated by the absence of secondary cases from a household in which a case of communicable disease exists, as they are by the recovery of the patient.

Furthermore, a proper attitude on the part of the attending physician will go far to promote content among the isolated individuals, and hence promote co-operation with the spirit of the community's regulations.

The practicing physician can play a great part in the ultimate control of such diseases as typhoid fever, in which the carrier condition may be exceedingly chronic, by using his opportunities for the collection of suitable specimens for laboratory examination from individuals giving a suspicious past history, thereby assisting health officials to detect chronic carriers and then keep such individuals under observation and supervision.

The lot of the practicing physician is made more pleasant if the responsibility for the inauguration, maintenance and release from isolation is placed solely and unreservedly in the hands of health authorities. Where the matter rests in the hands of the attending physician, embarrassing complications are frequent. The physician is constantly besieged by importunate and premature requests for release from the isolated individuals, and if deaf ears are turned to such premature requests, he is frequently discharged and a more pliant physician engaged. On the other hand, if relieved of this responsibility, opportunities for friction between the physician and his patients are largely removed, and the responsibility placed where it properly belongs—on the community.

Usually the layman is comparatively willing to submit to isolation as long as the infected individual is ill, but as convalescence progresses, discontent arises. This is frequently due to the distraction of the adult members of the household by reason of continued confinement with active and restless children, though more frequently arising from a diminuation in the family income. Frequently this discontent arises from a belief, quite general with the laity, that the degree of infectivity is directly proportional to the physical condition of the patient, that the patient is most dangerous when most ill and hence that isolation during advanced convalescence is an unnecessary interference. It must be remembered from a community standpoint, that the actual reverse is frequently the truth. The infectivity in all cases of the same disease may really be considered as very nearly equal. The mild case may never see a physician, thus escape recognition and go about his usual activities while most infective, scattering his infective discharges broadcast. On the other hand, the individual who feels ill usually consults a physician, the nature of the illness is ascertained and a measure at least of prevention inaugurated. Even if the sick individual does escape recognition, the case will be of less danger to the public than a mild case, because of the temporary disablement which results from the illness, with consequent reduction in the individual's activities.

It must be remembered that for practical purposes the ultimate source of communicable diseases does not arise in man's environment, but in man himself, that those ill with the disease are of greater importance in the propagation of the disease than those dead of the disease, and that the infected individuals who are but slightly ill or healthy carriers are of vastly greater importance than are those seriously ill.

Control and eradication of communicable diseases lies within our power. It will only be achieved when the better elements of our population understand this possibility and give health officials the necessary authority and funds to prosecute their work, when health officials and practicing physicians realize their mutual opportunity and responsibility, and have the knowledge, at present very largely available, of the measures whereby this result can be attained.

Discussion

A. C. Moerke, Burlington—The first requirement for public health work and the control of communicable diseases is money. It is this lack of money, from the State Board of Health down to the local health officer, that interferes with the proper control of communicable disease. Iowa ranks very low among our sister states as to the amount of money expended per capita for public health work, and the small amount of money available for public health work is frequently the reason for the appointment of the cheapest man for health officer. As the essayist stated, it is impossible to get efficient service from a man in general practice, he simply cannot afford, for financial reasons, to cause an affront to the people in the community, and the smaller the community the larger this question becomes. In a case of communicable disease there are always two parties that the health officer is apt to offend: First, the party that is quarantined, who thinks that he is persecuted. Second, the neighbors, who think that quarantine is not being enforced strictly enough. Consequently he loses the good will of both, which he cannot afford, consequently with insufficient or no protection to the public. Health officers as well as the rest of the doctors are human and they have to eat. The present plan, leaving reporting in and out of quarantine by the physicians, was adopted by the State Board after mature thought as the lesser of two evils. It practically puts the doctor on his honor to do the work properly. We know it is far from satisfactory, but I believe that it is more satisfactory than the old way of setting a definite time before quarantine expired. I believe doctors will report a case for quarantine if they know that they can get a release in a few weeks, than where a case once reported had to stay in the specified time whether mild or severe. We all know of the doctor in every community that does not report cases. You have all heard this often: "I believe my child has scarlet fever; I am going to get Dr. Doe, he won't quarantine me." You usually find that Dr. Doe is the abortionist as well, and is not much thought of by honorable physicians and usually not by the public, and the public call on such men only for shady work. There is only one way to get efficient work in communicable diseases as well as public health work, and that is a full-time health officer trained for this work, and not in practice. The units over which this officer should have control should be arranged so that the expense would not be heavy per capita. He should be a physician, able to do laboratory work, and have a well equipped laboratory furnished by the units for which he is employed. He should have power to investigate all suspicious cases and have the power to quarantine when necessary. He should not be a political appointee, but stand under civil service, and the State Board should be the appointing and removing power. The State Board should have an experienced epidemiologist who should be called in cases of dispute between the physician in charge and the health officer. Any physician who willfully or through gross ignorance should fail to report a communicable disease, should be called before the State Board and his license suspended or revoked, as the degree of culpability was established.

L. W. Littig, Davenport—It seems to me that the one note in this paper which should be sounded with clarion tones is the need for a full-time health officer; and this does not apply to the members of the State Board of Health, but applies to the health officers of cities, we will say of 10,000 or over. In some cities of the state the political complexion of the city council does not change and the local health officer is in a measure out of politics. In some of the river cities, however, the political complexion of the council changes and there is constant change in the occupant of the position of city physician. First of all this office should be taken out of politics. A man should be selected who is competent, and in a city of 10,000 or over he should be made a full-time health officer. I think word ought to go out from this Society to cities of 10,000 or over, that under the present system they cannot expect to get good service. That is the one thing in the paper I wish to emphasize.

D. N. Loose, Maquoketa—One point which applies at least in our county and I think all over Iowa, is that the unfortunate patient and his family are quarantined at their own expense. Now, you don't jail a man for crime and make him board himself, and yet with us at least and I suppose all over the state, members of a family unfortunate enough to have a communicable disease are isolated at their own expense for the good of the public, and they resent it, and I think I would feel the same under those circumstances.

J. F. Herrick, Ottumwa—While this paper more especially touches on home conditions, at this time the question of preventive medicine and hygiene is

certainly the problem we have before us and unsolved, therefore the importance of a paper like this.

Walter L. Bierring, Des Moines—We all recognize the importance of having full-time health officers, and I trust the time will soon be here when we shall get away from the old traditions of expecting certain advisory members of the board of health to do the efficient work that is so necessary for the health of a community. There is a part of the paper to which I would call your attention, and that is the need of having in this state some record of our diseases. With his characteristic energy, Dr. Boyd during the past year has worked very faithfully with the hope of getting our legislature to adopt a so-called morbidity statistical record. We have always recognized the importance of vital statistics, and to a certain degree we have succeeded this year in having at least some improvement made in the plan of collecting vital statistics. But it is equally important to have a record of the diseases as they occur throughout the state, because only on records like these can we properly institute preventive measures. I think this paper is very timely because it calls to our attention the peculiar health problems that are going to arise during the next two or three years. I doubt if many of you appreciate what it will mean if one million men, perhaps even a greater number, are moved about this country and become a part of the forces at the western battle front, where there is probably concentrated a greater number of people than has ever before been gathered in one place, and then in time these men come back after contact with the nations of the world and with the peculiar endemic diseases of that region and those affecting the people temporarily gathered there. You will, I am sure, easily recognize what a peculiar and unusual health problem will be presented when they come back to this country. And while we all appreciate how much you desire the individual privilege of going to the front of action, the real duty of the physician is going to be in preserving the health conditions at home. This is destined to be one of the greatest problems we will have to solve in the next few years—how to preserve our civil population in good health. This is where we will need your cooperation, not placing too much dependence upon temporary health officers. Each one of us has a duty to perform in trying to bring about the best health conditions in our community.

Dr. Boyd—I am pleased that those who have been so good as to discuss my paper have seemed to be unanimously of the opinion that the problem of the whole-time health officer is one of the things we have to solve. I also wish to emphasize the need for an efficient morbidity law in our state. It is absolutely useless to expect that the proper control of communicable diseases in our state will be had until the health officers are able to have prompt knowledge as to where these diseases are occurring. It is too late to inaugurate preventive measures after the case is dead. We want to do this while the case is living.

AMERICAN HOSPITALS IN ENGLAND

The American Women's War Relief Fund, whose president is Lady Paget, has made arrangements that its two hospitals, one at Lancaster Gate, London, and the other at Paignton, be used for the care of American soldiers. Although established for the care of the British soldiers, with the entry of America in the war these American women in England wish these hospitals to be always open for such Americans as may need their services.

"Lady Paget has been foremost in her charity work since the outbreak of hostilities. She has gathered from America 3,500,000 socks and these, with tens of thousands of garments such as underwear, pajamas and shirts, have been sent to British fighting men in need of them. Lady Paget, personally, has raised in America and England $1,250,000 for British wounded, $175,000 for Russian wounded, $160,000 for French wounded and $125,000 for American hospitals in England.

"Others associated with her in the American Women's War Relief Fund are Mrs. John Astor, vice-president, the Duchess of Marlborough, chairman, and Lady Lowther, and Mrs. Harcourt, who are secretaries. The nine American women who make up the executive committee are headed by the wife of the American ambassador, Mrs. Page. Lady Randolph Churchill is Chairman of the Hospital Committee, while the Chairman of the Economic Committee is the Duchess of Marlborough."

PUBLIC HEALTH PAPERS

We are publishing in this number and in several succeeding numbers of the Journal, a series of papers read at the First Annual Short-Course for Health Officers at the University of Iowa, September 19-21, 1917. These papers will show clearly the purpose the university has in view in inaugurating and continuing this admirable public service which should stimulate a greater interest on the part of the medical profession and on the part of the general public in health matters.

The medical profession of this state will deeply regret to learn that Dr. M. S. Boyd, state epidemiologist, has separated his connection with the University of Iowa, to become head of the Department of Bacteriology and Preventive Medicine in the Medical Department, University of Texas at Galveston. Dr. Boyd in his new field will have enlarged opportunities for work and at a more generous salary. While we regret to lose him, we extend our congratulations on the high appreciation of his ability as an epidemiologist by the great State of Texas.

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DINNER IN HONOR OF DR. E. C. ROSENOW

Dr. E. C. Rosenow devoted five weeks to the study and treatment of poliomyelitis in Davenport, in which sixty cases were treated by the serum method with the highest degree of success, in that every case was checked as soon as the serum was administered. The appreciation felt by the people of Davenport for the extraordinary success attained by Dr. Rosenow in his treatment, found expression in a dinner given in his honor, at which many expressions of obligation were extended to the Doctor, and which must have been to him very gratifying. Dr. Rosenow says that he began his treatment at Davenport with a deep feeling of responsibility such as Pasteur must have felt when he administered the first immunizing dose of hydrophobia antitoxin to little Joseph Meister, an Alsatian boy, nine years old, June 6, 1885.

Let us repeat some of the words that were said by Pasteur whose work was devoted in the line so productively taken up by Dr. Rosenow. In a letter to Leon Say, August 20, 1885, Pasteur said: "I dared to treat a poor little nine year old lad whose mother brought him to me from Alsace where he had been attacked on the 4th of June and bitten on the thighs, legs and hand in such a manner that hydrophobia would have been inevitable. He remains in perfect health."

Madam Pasteur writes to her children: "Your father has had another bad night; he is dreading the last inoculation on the child. And yet there can be no drawing back now. The boy continues in perfect health."

In a letter to his son, Pasteur writes: "I think great things are coming to pass. Joseph Meister has just left the laboratory."

"The lad is very well this morning and has slept well; he has a good appetite and no feverishness. He had a slight hysterical attack yesterday."

Vallery-Radot, Pasteur's biographer, speaks of Pasteur's anxiety during this trying period in the following words: "Pasteur was going through a succession of hopes, fears, anguish and an ardent yearning to snatch little Meister from death; he could no longer work. At nights, feverish visions came to him of the child whom he had seen playing in the garden, suffocating in the mad struggles of hydrophobia, like the dying child he had seen at the Hospital Trousseau in 1880. Vainly his experimental genius assured him that the virus of that most terrible of diseases was about to be vanquished, that humanity was about to be delivered from this dread horror—his human tenderness was stronger than all, his accustomed ready sympathy for the sufferings and anxieties of others was for the once centered in the dear lad."

These are the feelings of the scientists told by a gifted writer when so much was involved—so much at stake.

The banquet held in the Gold Room of the Hotel Blackhawk was probably the most impressive ever held in the city of Davenport. It meant so much to the little ones and their parents that it was quite beyond the power of expression to say to Dr. Rosenow just how the people felt.

The speakers of the evening were introduced by J. Clark Hall, Chairman of Arrangements Committee, and introduced Mr. Grilk, presiding officer of the evening, who called attention to the fact that "Dr. Rosenow had given up a part of his vacation in order to hasten to Davenport with his serum for the purpose of checking the epidemic which was threatening to sweep the city and which but for his timely arrival and assistance, would undoubtedly have meant the loss of hundreds of precious lives." Mr. Grilk presented the subject from the city's point of view in the most impressive manner, and presented a scroll at the conclusion of his address.

"I now hand you this scroll on which in formal words is feebly expressed the great gratitude felt by all the people of the City of Davenport for your self-sacrificing work and its epoch making result."

No more eloquent words could be said to a man who devoted his life to science and the welfare of humanity, and who could at the same moment hear the words spoken that expressed the heartfelt thanks of an appreciative public. Pasteur on a similar occasion many years ago, expressed himself as Dr. Rosenow expressed himself on this occasion, and there was no doubt the same feeling of thankfulness that he had rendered a service so great that it could not be measured in words. Dr. Rosenow responded in the following language.

"The first child to whom I administered the serum gave immediate response. A favorable turn soon manifested itself and the child soon got well."

In his address, Mr. Grilk expressed himself in these words: "The doctor in active practice stands out as the most welcome visitor in the household, he has more intimate knowledge of the history of the family than even the individual members of it, and in many cases beginning with the child new born into the world, he has an intimate place in its confidence and affections throughout the period of normal human life and sometimes stands by the bedside when the last light dies away.

"To that life he has furnished hope when diseases have given despair and he has brought back health when accident or ignorance has loaded the weak human frame with suffering, disease, and utter dejection.

"Surely it was the doctor who first practiced that mental science which teaches that the mental attitude towards life conforms the life to that attitude, and certainly as the Apostle of Good Cheer and Encouragement the doctor was practicing this art before its principles were known.

"It is very seldom that we of the general public have an opportunity to express our deep and abiding sense of gratitude towards the members of this great, humane profession, who live daily lives of self sacrifice in order that we may be restored from suffering to a position of health and happiness."

Following Mr. Grilk, Dr. W. L. Allen expressed the appreciation which the medical profession of Davenport felt for Dr. Rosenow who had on this and another former occasion, pointed out the way that science of medicine must render its greatest helpfulness to the public. Dr. Allen said:

"Scientific men are seldom appreciated by the public in a public manner; please do not misunderstand me. I do not mean that the people are not personally grateful to their doctors for I know that they are. I know that there is no one so near and dear to the little mother's heart not only here, but all over the world, as the family doctor. But is he ever made much of in a public way? And the same has been true with few exceptions for 2,000 years, not only as regards the family doctor but concerning the great discoverers in medicine, men like our guest, Dr. Rosenow. It is true there have been exceptions.

"Hippocrates was not only beloved by all but was looked upon in some places as a god. When the plague came to Rome some 2,300 years ago they sent for him and he could not come, but a ship passing down the Tiber ran aground and a serpent swam out from the ship and the plague stopped. This was taken as a message from Hippocrates and a monument was erected in the Tiber representing a ship with the bust of Æsculapius on the bow. A part of this is still to be seen beneath the foundation of a convent facing the Cloaca Maxima.

"Then there was Galvani, the father of electricity, a little one horse surgeon of Bologna, and Schiele, the discoverer of chlorine, and Priestly, the discoverer of oxygen. Did any one go crazy over those great men, and yet where would our great steel plants and our great arsenals be today had not those discoveries taken place? Do you see any busts of Galvani or Schiele or Priestly in our great factories?

"And now we come down to the real life saving heroes of the Pasteur school, those men like Pasteur and Behring, Koch and Rosenow, Walter Reed Carrell and Lazar.

"And now a hand is held out to help him, the way is pointed out, the danger is no greater than in our old black diphtheria days. The mild cases will be saved, and those which we now think hopeless, with Dr. Rosenow's help will lead us to detect some early symptoms so that we may prevent their reaching the hopeless stage."

Inscription on Scroll

To Dr. Edward C. Rosenow.

Greeting: The people of the City of Davenport, freed from the terrors of the scourge that menaced their hearts, their homes and their community, offer to you the homage of their gratitude.

That infantile paralysis should have become epidemic in Davenport only after your ceaseless research had borne fruit and you had perfected a serum to combat the dread disease, they look upon as providential, but your own action in hastening to their city to labor, generously and

disinterestedly, tirelessly and efficiently, night and day, beside the afflicted, they realize to have been one of many similar episodes in a life consecrated to the service of humanity.

They are happy to have had you among them as physician and friend, proud that their city saw the successful culmination of your many years of patient effort and they will hold for you, forevermore, the sincerest sentiments of affection, admiration and respect.

Davenport, Iowa, Thursday, November the eighth, Nineteen Hundred and Seventeen.

JOHN BERWALD, *Mayor,*
For the City of Davenport.
W. L. RENDLEMAN, M.D.,
For the Scott County Medical Society.
J. CLARK HALL,
For the Greater Davenport Committee.
H. K. SPENCER,
For the Davenport Commercial Club.
GEO. E. DECKER, M.D.,
For the Davenport Rotary Club.
MRS. F. E. HUTCHINS,
For the Davenport Woman's Club.
MRS. J. J. DORGAN,
For the Catholic Women's League.

The medical asset of a city or county has unfortunately not been rated very high except in a very few isolated instances. Whether this is the fault of the local profession or the fault of the community, which has not developed to the point of appreciating scientific men, we do not pretend to say, but there is a suspicion in our mind that the public will rate the medical profession about as we rate ourselves. This thought comes to us as we read from time to time what the profession is doing here and there. The organization of the local profession for well defined betterment of community health; the betterment of the working conditions of the profession touching hours of work and remuneration; of better hospital conditions; of meetings and discussions; and particularly the healing of personal difficulties and thereby show to the public that we respect ourselves and are as united as tradesman are; that we have a literature and are familiar with it.

We have read that the medical profession in Jackson County, Missouri, are preparing a permanent home and library for reasons we need not enter upon. It is announced that the society in the future will tender a dinner to each of its members who completes fifty years of professional practice. "To be for half a century a practicing physician, and of course an honorable and useful member of his great profession, is to render to the public a service well deserving of honor, not only at the hands of his professional colleagues but from the community generally."

OCCUPATIONAL DISEASES

Industrial development has now become so great a part of the world's activities and the economic value of the workman has become so great that it is of paramount importance to determine in what way conservation can best be directed. The older plan of supplying the exhausted and worn out operative by a new man can no longer be considered either from a humanitarium or an economic point of view. The employer has generally felt that his responsibility ended when he furnished fairly comfortable conditions of work and paid as he believed fair wages. His thought was that the workman must assume at least a part of the risk of the employment, and to exercise care in avoiding accident and any contributing negligence or carelessness on his part should relieve the employer of the burden of the loss. In the United States, we were slow to recognize what had for a long time been accepted in Europe, as an unjust view of the responsibility of industry. With the disappearance of the old lines of defense in accident liability came a much wider understanding of economic values of human output. It is now not only a question of avoiding accident but a question also of conditions of health and efficiency of the workman which will bring results under altogether changed conditions of employment. When viewed by either the employer or employe, the question still is a money consideration. A little reflection shows that these points of view are altogether false, for neither is for more than a short period benefited. Plans of workmen's compensation worked out by students of economics have been generally accepted in spite of the fact that most workmen's compensation laws are crude and bear the evidence of selfish financial gain. We can readily believe that amendments will follow an evolutionary process growing out of a better understanding of the end to be accomplished.

The economic benefits to be derived from scientific compensation laws leads one step further to include logical occupation disease legislation, and possibly compensatory health insurance. No doubt supposed personal interests may hold back such legislation for a time at least. We trust that radical enthusiasts will be content at least to work out sound and uniform compensation laws first, followed by occupational dis-

ease laws and health insurance laws, if such legislation seems best.

It is fortunate that many well equipped minds are engaged in this work and we may hope that in centers of industry something will be produced that will settle as far as may be the greatest question before the public.

In this direction, the Journal of "Medicine and Surgery" of St. Louis, edited by Dr. Philip Skrainka, has devoted the September number. Numerous papers on Occupational Diseases have been contributed by men of large experience, and abundant opportunities to study this class of diseases. This number of "Medicine and Surgery" will be helpful to physicians and others who are seeking to inform themselves on this important subject, particularly physicians who must recognize the fact that great evolutionary factors are at work in influencing the future practice of medicine.

FIBROADENOMA OF THE MAMMARY GLAND

Leo Loeb of the Comparative Pathology Department, Washington University, records some observations on the mammary glands of rats, which present features of interest in relation to the development of fibroadenomas. In an animal (rat) which had had young three and one-half months; the normal retrogression of the mammary gland had failed to take place, and in place of retrogressive necrosis in certain portions, was observed, though the breaking down ducts were opened and the neighboring epithelium began to regenerate and to separate the healthy from the dying tissue; this was observed most in the central portions while in the periphery the gland tissue was better preserved. The dying tissue absorbs much water, this gradually disintegrates, undergoes autolysis until it becomes more and more a fluid mass. At the same time the necrotic tissue attracts polynuclear leucocytes. This process continues while the material in the center liquifies more and more and new tissue at the periphery breaks down, and a large cyst is formed through the regeneration of the epithelium of the large ducts. This process was observed in three of the mammary glands while in the fourth this breaking down did not occur and the greater part returned to the condition of an inactive gland, but the connective tissue surrounding the gland became very dense, forming a structure like an adenofibroma.

From these observations, Loeb concludes that there are two conditions responsible for the origin of the fibroadenoma, (1) general conditions which prevent the normal retrogression of a number of mammary glands; (2) a special local condition which prevents the breaking down of the gland and leads instead to the preservation and increase of its gland and connective tissue structures; that the connective tissue overgrowth is the result of a stimulating effect exerted by the gland and that under the peculiar metabolic conditions of the gland, the connective tissue becomes fibrous.

In another contribution referring particularly to the transplantation, Loeb concludes that it is possible to transplant benign tumors, specifically the adenofibroma of the mammary gland of rats through several generations. In observing the growth in different generations, an apparent decrease in growth energy was noticed in each successive generation. Loeb observed an important fact as to the difference in growth energy between benign and malignant tumors. He found that sarcoma as well as carcinoma generally shows upon transplantation a definite increase in growth energy dependent presumably upon a direct stimulation of the tumor cells by the conditions associated with transplantation.

It was further observed that the transplantation of adenofibroma of the mammary gland into pregnant rats seems to favor its growth during the period of pregnancy. If on the other hand, carcinoma of the mammary gland of the mouse is transplanted into pregnant mice, it usually does not grow.

RESOLUTION ADOPTED UNANIMOUSLY BY THE CLINICAL CONGRESS OF SURGEONS OF NORTH AMERICA AT CHICAGO, OCTOBER 25, 1917

Whereas: The experiences of the nation convince us of the necessity for Universal Military Training, to furnish qualified men for defense, to strengthen manhood and mental poise, and to make for a more efficient citizenship, and

Whereas: We believe it will democratize youth and furnish discipline, while developing physical force and endurance, and will produce better fathers and workers for the ranks of peace;

Therefore: Be it Resolved, that the Clinical Congress of Surgeons at its eighth annual session urges upon Congress at its coming session the passage of a measure along the general lines of the Chamberlain Bill for Universal Military Training, and that the cantonments now used by the National Army be utilized, if possible, for such work.

ACTION OF THE STATE COMMITTEES OF THE MEDICAL SECTION, COUNCIL OF NATIONAL DEFENSE

Urging immediate action providing for at least six months of intensive military training of all young men in their nineteenth year, to become operative as soon as the army cantonments are available; also recommending physical training in schools, etc.

The following resolutions were adopted unanimously at a meeting of committees from all states (except Maine and Delaware), held in the Congress Hotel, Chicago, October 23, 1917.

Whereas, The experience through which the United States is now passing should convince every thoughtful person of the necessity for the universal training of young men, not only for the national defense in case of need, but also to develop the nation's greatest asset—its young manhood—in physical strength, in mental alertness, and in respect for the obligations of citizenship essential in a democracy; Therefore, Be It

Resolved by the State Committees of the Medical Section of the Council of National Defense that they strongly urge the adoption by our government at this time of a comprehensive plan of intensive universal military training of young men for a period of at least six months, upon arriving at the age of nineteen years; and that this body also support the movement to secure the introduction into public schools of adequate physical training and instruction;

Resolved, That the members of each State Committee immediately take active steps to insure public support for the subject of these resolutions through the newspapers, through public meetings and through the appointment of committees in each county; also that copies of these resolutions be forwarded to the Senators and members of Congress in their respective states, with a personal request that favorable action be taken at the coming session of Congress upon a measure following the principle of the Chamberlain bill and to become operative as soon as the army cantonments are no longer required for the training of the forces in the present war;

Resolved, That each State Committee from time to time report to the Medical Section of the Council of National Defense as to action taken and progress secured in their several states.

RECONSTRUCTION OF BASE HOSPITAL NO. 1

"Reconstruction" Base Hospital No. 1, for the United States War Department, is to be built here in Boston on Parker Hill, on the site of the old Parker Hill Reservoir, now graded to level, next the Robert B. Brigham Hospital.

Its object is the "reconstruction" of the crippled soldiers, likely to return to us not long hence. This work is special work, not adapted to the general base hospitals at the front or here.

It means the reconstruction, by operation, by apparatus, by education—re-education—of those who come back with fractures ununited or ill-united, with stiff joints, with nerve palsies from injury or shock—of those who need plastic operations to remedy contractures or defects, or need appliances to supplant a missing limb, and the necessary education in their use.

Most of these men, if discharged early, would be permanent cripples—a burden on the community. It is, therefore, a community problem as well as a military problem.

The Canadian experience indicates that about three-quarters of those invalided home fall in this class—in the class whose cases the kind of special orthopedic or other treatment to be provided for by this hospital plan is well worth trying in the attempt to make them again fit for the line or for wage-earning at home.

One of the surprises of this war has been the success of both the Allies and the Central Powers in rendering again serviceable thousands of men who would have become derelicts under the old regime. They had a civil machinery and experience better than ours, being older in the field of workmen's compensation. For us this is new and unpredicted work—a new problem, one our Government has not fully prepared for—one in which the Government is very ready, busy as it is with the enormous expansion of routine work, to accept outside help.

This Boston hospital for reconstruction, a fully formulated scheme for such help, has been accepted and endorsed by the War Department.

Thanks primarily to the efforts of Dr. Joel Goldthwait, much has already been done.

Mayor Curley has had the Parker Hill Reservoir leveled off (it had long been planned to make this a park—the mayor saw that this was the time to do it, and did it), and the Robert Brigham Hospital, next door, able to spare something from its wonderful central plant, has agreed to furnish light, heat, kitchen, laundry, chemical laboratory, x-ray plant, etc.

As to professional care, a unit of eleven men has been gathered—gathered purely on the basis of proved efficiency in the class of work to be provided for.

They are ready, the Brigham Hospital is ready, the site is nearly ready. The War Department is ready to take us over as soon as we are ready to receive patients.

In the meanwhile the community must help. Just now the War Department has no funds applicable to the erection of our buildings.

This erection is our civic problem. Remember, it is not only a war problem; it is a community problem in peace as well as war—this reconstruction of cripples to usefulness.

Later it may become purely an industrial problem, and we feel sure that our war experience will help

mightily in this field to the solution of our problem of accident and disability under peace conditions.

Just now, however, it is war—and we are concerned with a detail problem in war surgery (very intimately connected with the surgery of industry) which the Central Government—overpressed—has turned over for the moment to local initiative.

Our community is signally honored by the command to go ahead. It seems we are to set the pace in this important work!

We want—for now—four wards of temporary type, of twenty-four beds each. Each will cost about $4,000 to build and fit out.

The plans are all ready, not only for this group of buildings we are to start with, but for eventual expansion to five hundred beds when this shall have become a War Department hospital.

We have money enough for one ward already subscribed, and are going ahead on this. Money for three more wards is needed. Everything else is ready. All that lies between us and a very early completion of the small hospital, ready to start in receiving patients as soon as they come, is money.

It is hoped that individuals and associations will interest themselves.

Nothing could be of more service to the cause we are all trying to serve, nothing would redound more to the credit of the community.

Checks or pledges—better checks—may be sent to Mr. Charles S. Rackemann, Ames building, Boston.—F. J. C.—(The Boston Medical and Surgical Journal.)

IOWA MEDICAL MEN IN THE WAR

To Boston, Massachusetts General Hospital, from Medical Officers' Training Camp, Fort Riley, for a course of instruction on fractures and on completion of this duty to Camp Lewis, American Lake, Washington, for temporary duty as surgical assistant, Capt. Carl J. Snitkay, Belle Plaine.

To Camp Beauregard, Alexandria, La., for duty, from Fort Riley, Lieuts. Merle Bonte, Albia; Roy C. Gutch, Chariton; Edward L. Hallinan, Clinton; Walter G. Finley, Mondamin.

To Camp Greenleaf, Fort Oglethorpe, for a course of instruction, Capts. Chalmers A. Hill, Council Bluffs; Robert C. Crumpton, Webster City.

To Camp Jackson, Columbia, S. C., for duty from Fort Oglethorpe, Lieut. John F. Meany, Rockwell.

To Camp Logan, Houston, Tex., for duty from Fort Riley, Lieut. Ralph J. Selman, Blakesburg.

To Camp Logan, Houston, Tex., for duty from Fort Riley, Lieuts. Benjamin C. Hamilton, Jr., Jefferson; Paul Nicolai, Livermore; John W. Stiers, Muscatine; Clyde R. Van Voorhis, Prairie City; Edmund W. Wilson, Rolfe; Herbert Pease, Slater.

To Camp Travis, Fort Sam Houston, Tex., for duty, from Fort Riley, Kan., Lieut. Roy K. Keech, Cedar Rapids.

To Fort Oglethorpe, for a course of intruction, Lieuts. George W. Frank, Buffalo; Edwin J. Gottsch, LeMard; Robert G. Hinrichs, Palmer.

To Army Medical School, Washington, D. C., for a course of instruction, Lieut. John E. Kiley, Valley Junction.

To Camp Custer, Battle Creek, Mich., for duty as a member of a board of medical officers for the special examination of the command for tuberculosis, from Fort Benjamin Harrison, Lieut. Henry I. McPherrin, Perry.

To Camp Dix, Wrightstown, for temporary duty in the base hospital, Capt. Alden H. Hoover, Des Moines.

To Camp Dodge, Des Moines, for duty in connection with orthopedic work, Capt. Francis La Piana, Des Moines; for duty, Lieut. Clyde L. Van Patten, Anamosa.

To Camp Grant, Rockford, Ill., for duty in the base hospital, Lieut. Elmer J. Lambert, Ottumwa.

To Camp Kelly, San Antonio, Tex., for duty from Fort Oglethorpe, Lieut. Frederick E. Keller, Huxley.

To Camp Lewis, American Lake, Washington, for duty in the base hospital, Capt. Marcus C. Terry, Brighton.

To Fort Riley, Kan., for duty with Hospital Train No. 25, Lieut. John F. Loosbrock, Fort Des Moines.

To Boston, Mass., City Hospital, for instruction and on completion to Camp Dix, base hospital, from Fort Benjamin Harrison, Lieut. John D. Hexon, Decorah.

To Chicago, Ill., for instruction, from Fort Sam Houston, Tex., Capt. Benjamin R. Johnston, Cedar Rapids; to Northwestern University Dental School, for instruction and on completion to Camp Bowie, base hospital, from Camp Bowie, Lieut. Prentiss B. Cleaves, Cherokee.

To Fort Riley, Kan., base hospital, Capt. James W. Osborn, Lieut. William S. Binford, Dixon.

To New Orleans, La., Charity Hospital for instruction and on completion to Camp Travis, base hospital, from Fort Benjamin Harrison, Capt. George W. Yavorsky, Belle Plaine.

To New York City, Bellevue Hospital, for instruction and on completion to Camp Sherman, Lieut. Ransom D. Bernard, Clarion; to Camp Upton, Lieut. William Harris, Moravia.

To Philippine Islands, from Fort Benjamin Harrison, Capt. Clifford W. Losh, Des Moines; John H. Baldridge, Batavia.

To Pittsburgh, Pa., for instruction and on completion to Camp Grant, Rockford, Ill., base hospital, from Fort Benjamin Harrison, Lieuts. Elliot S. Strong, Iowa City; Harry B. Wilkinson, Perry.

To his home and the inactive list on account of being physically disqualified for active service, from Camp Bowie, Lieut. Harry L. Bridgman, Columbia.

Capt. James W. Thornton of Ackley, has reported for duty at Camp Pike.

Lieut. Howard H. Johnston of Hampton, has reported for duty at the base hospital Camp Wadsworth, Spartansburg, South Carolina.

Lieut. C. D. Enfield of Jefferson, who has been on duty at Fort Benjamin Harrison is transferred to Camp Dodge for duty on the tuberculosis examining board.

Capt. Henry A. Gray of Keokuk, has been ordered from Fort Riley to the Neurologic Institute, New York City, for instruction in brain surgery.

Lieut. Frederick W. Sallander of Ft. Madison, has been ordered to report to the chief surgeon of the Aviation Section, for temporary duty, and later to report to Garden City, Long Island.

Lieut. Harold L. Brercton of Emmetsburg, has been ordered to report for duty at the base hospital Camp Yaphank, Long Island.

Capt. George W. Yavorsky of Belle Plaine, has been ordered to the base hospital at Camp Travis, from Ft. Benjamin Harrison, after a course of instruction at the Charity Hospital, New Orleans.

Capt. James J. Daly of Decorah, has been ordered to report for duty at Fort Riley.

Lieut. Wm. H. Betts of Madrid, has been ordered from Ft. Benjamin Harrison to the base hospital at Camp Custer.

Capt. Hans Hansen of Logan, has been transferred from Ft. Des Moines to Camp Dodge.

CHANGES IN THE SELECTIVE SERVICE BOARDS

The United States Government after an experience of several months in selecting the first contingent of soldiers, has made some changes in the regulations governing these boards, and some modifications relating to the subject of exemptions. There has been no change in the organization of the board itself but some additions have been made that will be helpful in making the work more logical and more satisfactory. The medical members of the boards will be retained and will operate as they did during the last draft service.

When the United States came into the war and a general Medical Board or Council of National Defense, it was then that a surgeon was appointed as advisor to the governors of the various states, but as some of these entered the service, others were appointed to serve in their place. Under the new regulations, advisory boards have been constituted to serve in the following capacity.

"It is planned to establish Medical Advisory Boards, not necessarily integrated with the territorial jurisdiction of either local or district boards, but having headquarters with sufficient apparatus and conveniences so located as to be accessible to boards in the portion of the state in which the advisory boards are situated. Any case in which the local examining physician has held the registrant disqualified for service (unless the disqualification is obvious) or in which the local physician is in doubt, or in which the registrant feels aggrieved by the decision of the local physician, or where the local board or the government appeals agent desires to appeal the findings of the local physician, is to be sent to such Medical Advisory Board for an exhaustive (medical) re-examination upon which the local board can proceed to a final determination."

As medical advisor to the governor, Dr. W. W. Pearson has been appointed to succeed Major D. S. Fairchild, Jr., now in service in France.

The Advisory Boards have been located and the personnel provided for as far as possible at this time. The members of these Advisory Boards will be selected by the governor, and on his recommendation, the president will appoint such Advisory Boards. These Advisory Boards shall be located with reference to railway transportation and convenience, so as to reduce the cost as much as possible and at the same time secure competent men to make the examinations.

The medical member of the Northern District Board is Dr. W. W. Bowen, Fort Dodge; the medical member of the Southern District Board is Dr. C. S. Grant of Iowa City.

The physicians of the city boards are as follows:

Dr. Frank W. Porterfield, Waterloo.
Dr. J. R. Guthrie, Dubuque.
Dr. John Hamilton, Cedar Rapids.
Dr. Vernon L. Treynor, Council Bluffs.
Dr. Kuno H. Struck, Davenport.
Dr. William L. Allen, Davenport.
Dr. James F. Taylor, Sioux City.
Dr. Chas. S. McDevitt, 3221 Kingman, Des Moines.
Dr. E. B. Walston, 846 Sixth Avenue, Des Moines.
Dr. F. L. Parker, 3510 Sixth Avenue, Des Moines.
Dr. C. C. Shope, 29th and Grand Ave., Des Moines.

The medical members of the examining boards of the state are as follows:

Adair—Preston Powel, Adair.
Adams—O. B. Hawley, Corning.
Allamakee—D. H. Bowers, Waukon.
Appanoose—C. P. Bowen, Centerville.
Audubon—Alfred L. Brooks, Audubon.
Benton—John E. Luckey, Vinton.
Blackhawk—Frank N. Mead, Hudson.
Boone—Albert R. Deering, Boone.
Bremer—W. A. Rohlf, Waverly.
Buchanan—Fred F. Agnew, Independence.
Buena Vista—F. C. Tobey, Newell.
Butler—J. W. Cunningham, Dumont.
Calhoun—J. W. Craig, Lohrville.
Carroll—O. W. Wyatt, Manning.
Cass—C. L. Campbell, Atlantic.
Cedar—R. A. Peters, Tipton.
Cerro Gordo—C. F. Starr, Mason City.
Cherokee—C. H. Johnson, Cherokee.
Clarke—W. F. Dean, Osceola.
Clay—E. E. Munger, Spencer.
Chickasaw—Paul E. Gardner, New Hampton.
Clayton—William J. McGrath, Elkader.
Clinton—D. S. Fairchild, Sr., Clinton.
Crawford—Wm. T. Wright, Denison.
Dallas—M. W. Thornburg, Redfield.
Davis—Edward D. Beauchamp, Bloomfield.

Decatur—Bert L. Eiker, Leon.
Delaware—Ernest G. Dittmer, Manchester.
Des Moines—R. F. Karney, Burlington.
Dickinson—John D. Geissinger, Spirit Lake.
Dubuque—J. R. Guthrie, Dubuque.
Emmet—M. E. Wilson, Estherville.
Fayette—J. F. Cole, Oelwein.
Floyd—J. B. Miner, Charles City.
Franklin—Joseph C. Powers, Hampton.
Fremont—James M. Lovelady, Sidney.
Greene—Benjamin C. Hamilton, Sr., Jefferson.
Grundy—Wm. O. McDowell, Grundy Center.
Guthrie—J. W. Harrison, Guthrie Center.
Hamilton—Frank E. Whitley, Webster City.
Hancock—C. O. Brewster, Britt.
Hardin—N. C. Morse, Eldora.
Harrison—David Williams, Logan.
Henry—W. A. Sternberg, Mount Pleasant.
Humboldt—A. Arent, Humboldt.
Howard—Geo. Kessel, Cresco.
Ida—James E. Conn, Ida Grove.
Iowa—Albert E. Gibson, Marengo.
Jackson—A. B. Bowen, Maquoketa.
Jasper—E. F. Beeser, Newton.
Jefferson—W. Fordyce, Fairfield.
Johnson—F. J. Rohner, Iowa City.
Jones—A. G. Hejinian, Anamosa.
Keokuk—W. W. Eastburn, Sigourney.
Kossuth—M. J. Kenefick, Algona.
Lee—Robert H. Fegers, Keokuk.
Linn—Frank S. Skinner, Marion.
Louisa—J. H. Chittum, Wapello.
Lucas—T. M. Throckmorton, Chariton.
Lyon—J. M. Crowley, Rock Rapids.
Madison—Ed Embree, Winterset.
Mahaska—F. L. Barnes, Oskaloosa.
Marion—Joseph W. Finarty, Knoxville.
Marshall—W. S. Devine, Marshalltown.
Mills—J. G. McCue, Silver City.
Mitchell—Ralph Lee Whitley, Osage.
Monona—R. R. Ginfles, Onawa.
Monroe—C. M. Hyatt, Albia.
Montgomery—Louis A. Thomas, Red Oak.
Muscatine—T. F. Beveridge, Muscatine.
O'Brien—H. L. Avery, Primghar.
Osceola—Frank S. Hough, Sibley.
Page—Thomas E. Powers, Clarinda.
Palo Alto—Henry A. Powers, Emmetsburg.
Plymouth—James M. Fettes, LeMars.
Pocahontas—J. W. Starr, Pocahontas.
Polk—P. V. Ketchum, Elkhart.
Pottawattamie—R. G. Smith, Oakland.
Poweshiek—Eugene F. Talbott, Grinnell.
Ringgold—C. T. Lesan, Mount Ayr.
Sac—A. Groman, Odebolt.
Scott—Jefferson D. Blything, Bettendorf.
Shelby—James Bisgard, Harlan.
Sioux—Albert De Bey, Orange City.
Story—Frank S. Smith, Nevada.
Tama—Benj. Thompson, Tama.
Taylor—Alva A. Archer, Bedford.
Union—J. W. Coakley, Creston.
Van Buren—James A. Craig, Keosauqua.
Warren—Oliver P. Judkins, Indianola.
Washington—C. A. Boice, Washington.
Wapello—S. A. Spilman, Ottumwa.
Wayne—George McCulloch, Humeston.
Webster—Robert Evans, Fort Dodge.
Winnebago—A. J. Peterson, Forest City.
Winneshiek—H. H. Thomas, Decorah.
Woodbury—R. M. Conmey, Sargeant Bluff.
Worth—R. B. Yoder, Northwood.
Wright—J. H. Sams, Clarion.

Supplement to list of Iowa physicians who have been recommended by the Surgeon-General for commissions in the Medical Officers' Reserve Corps.

John Chase Dennison, Capt., Bellevue.
Frank Palmer Riggle, 1st Lieut., Cedar Rapids.
Charles Andrew Mackey, 1st Lieut., Centerville.
William Wilson Pearson, 1st Lieut., Des Moines.
Julius Lewis Shryer, 1st Lieut., Durant.
James Arthur Porter, 1st Lieut., Hedrick.
Leonard James Bowman, 1st Lieut., Masonville.
Frank Albert Priessman, 1st Lieut., Meehaniesville.
Carl Aschenbrenner, Capt., Pella.
Elmer Remle Park, Capt., Sioux City.

BOOK REVIEWS

DISEASES OF THE SKIN

By Richard L. Sutton, M.D., Professor of Diseases of the Skin, University of Kansas School of Medicine. With Eight Hundred and Thirty-Three Illustrations and Eight Colored Plates. 1020 Pages. Second Edition, Revised and Enlarged. C. V. Mosby Company, St. Louis, 1917.

The general practitioner probably feels his weakness insofar as accurate knowledge is concerned in the presence of skin disease more than in any other field of medicine. Of late years, however, patient students of this special field have brought out a number of books arranged in a logical and attractive way, which will serve as a stimulus to a better study of skin disease.

It would be quite impossible for us to present a detailed outline of this voluminous work even if we had the space and the ability to do so. In a book on skin disease, a text description however skillfully performed, would hardly appeal to the reader outside of the specialist in skin disease, without illustrations, and here, it seems to us, the author has excelled. It must be observed that many of these plates are used in common with other authors, and in this book due credit is given.

NUTRITION AND CLINICAL DIETETICS

By Herbert S. Carter, A.M., M.D., Associate in Clinical Medicine, Columbia Univer-

sity; Associate Attending Physician to Presbyterian Hospital, New York; Paul E. Howe, M.A., Ph.D., Assistant Professor of Biological Chemistry, Columbia University, New York; Howard H. Mason, A.B., M.D., Instructor in Diseases of Children, Columbia University, New York. Lea & Febiger, Philadelphia and New York, 1917. Price $5.50.

In the preface we are given to understand that diatetics is not a mature science and that a diet is not a simple matter; that the personal equation is of immense importance and that food will affect different people under apparently similar conditions in a different manner. It therefore follows that experience should be wide enough to guide safely in determining a proper dietary.

In the introductory chapter we are given first definition of what the term food means; how the term should be applied and what should be included under different classes.

Part first of the book includes Foods and Normal Nutrition. The first chapter considers Digestion, Absorption and Excretion; chapter two, Energy Requirement; chapter three, Protein Requirement; chapter four, Inorganic Salts and Water. Then follows ten chapters on Normal Feeding and Food Economics, Foods and Beverages.

Part three includes three chapters on Feeding in Infancy and Childhood. Following seventeen chapters on the fundamental questions in relation to digestion, nutrition, foods, food values, food economics and beverages, comes part four relating to Feeding in Disease. First; Diseases of the Circulatory Organs, Functional Cardiac Disturbances and in Organic Cardiac Disease, including the different diets bearing the names of persons who introduced them. A chapter is devoted to Feeding in Diseases of the Lungs. In diseases of the digestive tract, food questions are of the first importance. The conditions are so various and the personal equasion so controlling that great care is necessary to study the condition and the individual in the light of experience. The author has attempted to point the conditions with much patience and to formulate dietary plans to meet them. Gastric ulcers receive much attention. The dietary in nephritis and in diabetes are recognized as of the first importance in the treatment of these diseases and receive full attention. There are other diseases which are considered, both medical and surgical, which we have not the space to consider.

A rational practice of medicine today, considered from a clinical standpoint, bears so close a relation to food and dietary that one who thinks only of drugs and serums is liable to meet with limited success. For this reason, laboratories and hospitals are diligently at work on the fundamental facts of food and nutrition. The practitioner can reasonably expect so far as a dietary is concerned, only illustrative suggestions. The dietary must be worked out in the light of scientific facts and general and individual experience.

Several useful books have been written recently, which should be consulted, among which should be mentioned the one under review.

THE PRESCRIPTION

By Otto A. Wall, Ph.G., M.D., Fourth (and Revised) Edition. C. V. Mosby Company, St. Louis, Mo., 1917. Price $2.50.

The distinguished author of the above book, which has been out of print for many years, deserves well of all who have to do with prescription writing and interpretation in his willingness to revise his book, and thus bring it up to date. Practitioners of medicine, dentistry, and pharmacy should all be much interested in such a book, as well as undergraduates in all these professions who should find it a great help to them.

The book is complete in each of its five distinct and important parts. It is indeed almost a classic as touching the subjects it treats. It is fortunate that such a subject should have fallen into the hands of one whose life-work has so eminently fitted him to treat it. His long service as a teacher, his affiliations with both pharmacists and physicians, his contact with student-life, have all contributed to the rich storehouse of material from which he has so evidently drawn.

One needs such a book before him to properly estimate its worth. A review of it cannot at all adequately present its worth. It can be recommended to students, physicians, dentists, and pharmacists alike as a book well worth while. A word may be said, too, in a complimentary way, in behalf of its publisher's contribution, in the type used and the neat, clean-looking pages of the book.—C. S. Chase.

THE MEDICAL CLINICS OF NORTH AMERICA

Volume 1, Number 2, Octavo of 269 Pages, 28 Illustrations. W. B. Saunders Company, 1917. Philadelphia and London. Published Bi-Monthly; Price Per Year, Paper $10.00, Cloth, $14.00.

This is a Philadelphia number and contains a number of clinics by leading clinical teachers in the great hospitals of that city. It is difficult to designate any particular clinic, probably we cannot do better than call attention to the first, "Aortitis," in the clinic of Dr. Thomas McCrea. This disease is known to be due to infections—two in particular—rheumatic fever and syphilis. After a general discussion, several clinical cases are presented. The second clinic is by Prof. Alfred Stengel on Chronic Nephritis, a subject always full of interest. Three forms are presented; 1st, Tubular Nephritis; 2nd, Glomerulonephritis, and 3rd, Renal Sclerosis. Dr. Stengel draws a clear pathological and clinical dis-

tinction between these three forms. In line with the two preceding clinics is a clinic by Dr. Hobart Amory Hare on Cardiac Disease and Digitalis. Not far removed is a clinic of Dr. David Riesman on Progressive Myocarditis and Cardiac Decompensation. Allied to the above is a clinic of Dr. A. A. Stevens on Angina Pectoris and Allied Conditions. Following is the clinic of Dr. Ross V. Patterson on Mechanical Disorders and Irregularities of the Cardiac Contraction. Continuing is the clinic of Dr. Judson Deland on Ulcerative Endocarditis Secondary to Dental Sepsis, Treated by Autogenous Vaccine, and last in this related series is the clinic of Dr. John H. Musser, Jr., "A Case of Auricular Fibrillation of Long Duration."

All the clinics referred to, touch at various points and can be profitably studied together. There are several other equally valuable clinics by distinguished teachers, which have no direct relation one with another; one which we may mention is a contribution by Dr. T. H. Weisenburg on Poliomyelitis.

The Philadelphia number may well be considered a successful one.

THE SURGICAL CLINICS OF CHICAGO

August, 1917; Volume I, Number 4; With 71 Illustrations; Published Bi-Monthly. W. B. Saunders Company, Philadelphia and London. Price Per Year $10.00.

Fifteen well known Chicago surgeons contribute to this number. Dr. A. J. Ochsner presents a clinic on Craniotomy for Jacksonian Epilepsy, and Tumor in Undescended Testicle, illustrated by several excellent figures. Dr. Ochsner states that since instituting a strict regime following operation, his results have been much better in cranial surgery. He directs a small quantity of sodium bromide to season food, such as eggs, and advises light work, etc. Dr. A. D. Bevan some years ago, questioned the advisability of doing radical operations on the large intestines as advocated by Lane, has recently given much attention to the subject of large intestine surgery and has contributed several valuable articles, one of which is found in this number of the clinics.

Dr. Kellogg Speed gives an interesting clinic prepared for the Chicago Surgical Society. There is also an interesting case of tendon transplantation by Dr. Edwin Ryerson.

Dr. Carl Beck considers the transperitoneal approach to the kidney, which he advocates in a certain class of cases.

Dr. David C. Straus presents a case of strangulated appendix in a femoral hernia.

Dr. George E. Shambaugh has a rather full clinic on several subjects relating to his special work on the throat and the sinuses and middle ear. There are also several equally interesting clinics which gives this Chicago number a special value to the general surgeon.

Washington, D. C., Nov. 18, 1917.

Mr. H. P. Davison, Chairman of the Red Cross War Council, makes public today a report received from Major Grayson, M. P. Murphy, Red Cross Commissioner for Europe, of the work in military relief now being conducted and organized by the American Red Cross in France.

The report in part is as follows:

"First of all, the American Red Cross stands ready as a semi-official voluntary body to put its money, supplies and organization at the call of the American army for Red Cross service, at every point and at any time, wherever and whenever, they can be of use. It organizes, equips, and turns over to the government absolutely the hospital units that are employed in France. This is done in the United States and will not be gone into here. Its medical and surgical division in France acts as an auxiliary to the Medical Department of the United States Army, which is charged with responsibility for the sanitary and medical service of the troops in France. So also its United States army division acts as auxiliary to the expenditionary force.

Caring for Wounded

"An army medical department, to do justice to its wounded, must be ready to care for them within twelve hours, it must go to the wounded soldier, not wait until the soldier is brought back. This in modern war calls, with variations, for regimental dressing stations as near as they can be brought to the lines; field dressing stations from which the seriously wounded are sent back, either to movable field hospitals or evacuating hospitals of from 1000 to 1500 beds each (where head, chest, and abdominal wounds must be operated upon or you lose your men); and base hospitals, to which the sick and wounded are removed as rapidly as they safely can be transported.

Red Cross Co-operates

"It is with this general system of the United States Army Medical Department that the Red Cross stands ready to co-operate at every point, through installing rest stations and infirmaries on the line of communication, recuperation stations back from the war zone; neighborhood dispensaries in army villages; diet kitchens and homes for nurses; auxiliary plants for the manufacture of anesthetics, ice, splints; a fund for scientific research and a bureau of information on methods in field hospital practice; and great and thorough reserves of emergency supplies of everything from a bandage to a mobile hospital.

Red Cross Takes Over Ambulance Service

"In June the Red Cross took over the Norton-Harjes Ambulance Service, made up of five sections of twenty cars each, two men to a car and two officers to each section; and between that time and the date on which responsibility for ambulance transport was taken over by the American Army it organized, equipped and put in service eight additional

sections. Before disbanding, the number of men had been brought to over 600, 550 of them at the front and the remainder in the training camp. Many of these have since gone into other branches of service. The command of the service was under Richard Norton and the work in the field, often under trying conditions, was carried on with nerve and esprit de corps."

INCREASED RANK AND MORE AUTHORITY FOR MEDICAL OFFICERS

As most of our readers are aware, an amendment was introduced into Congress at the recent session which, if it had been adopted, would have given the medical officers in the Army the same rank that prevails in the Medical Corps of the Navy. Specifically the amendment provided that there should be twenty-five one-hundredths of 1 per cent. of major-generals, the same proportion of brigadier-generals, 4 per cent. of colonels, 8 per cent. of lieutenant-colonels, 23.5 per cent. of majors, 32 per cent. of captains, and 32 per cent. of lieutenants, this to apply to both the regular and the reserve corps men. Thus, if there are 10,000 medical officers in active service, there might be 25 major-generals, 25 brigadier-generals, 400 colonels, 800 lieutenant-colonels, 2,350 majors, 3,200 captains and 3,200 first lieutenants. This amendment lapsed without action by the ending of the session. The substance of the amendment, however, will be incorporated in a bill which will be introduced in both the Senate and the House at the coming session of Congress.

Medical officers must be equal in rank and authority with line officers if they are adequately to carry out the duties for which they will be held responsible. This fact has been emphasized by the experience of our allies in the present war, as well as by our own experience in the past. Our allies admit that in the beginning the medical officer did not have the rank, and consequently the authority, he should have had and that, for this reason, there have been grievous consequences. Among these was the disastrous experience of the British Army in the Mesopotamian campaign as a result of the failure of the medical service. The report of this tragedy, made by a board of nonmedical men, showed that lack of authority of the medical officers was an important factor. The medical officers were practically ignored. They were not advised as to the character of the expedition that was being undertaken, and as a consequence, they were unprepared for what happened. When later a medical officer made urgent representations in regard to the actual conditions obtaining, which in his opinion needed prompt action, he was threatened with arrest and removal from his post. When the actual results came the blame was thrown on the medical department, of which this medical officer was a member. The medical officers were censured because they had not protested more vigorously. We had a similar experience in 1898 when our medical officers were criticized for insanitary conditions at Chickamauga and elsewhere, although there was plenty of evidence to show that they had protested against these conditions to line officers. The whole sad story is told in detail in the Dodge report. There, also, will be found testimony that line officers treated with contempt the recommendations and protests made by medical officers. The medical officer is without influence simply because his shoulder straps indicate lower rank than that of the line officer with whom he is associated. Some may sneer, but the fact remains that it is rank that counts in both the Army and the Navy.

Of course rank brings with it increased pay. This, however, is immaterial. At the same time, it should not be forgotten that most of the physicians now in the Medical Reserve Corps have not only left the comforts of their homes, but also have given up practices which in the majority of instances yielded far more income than the pay they would receive as medical officers of the Army even if they had conferred on them the highest rank that the proposed law would provide. Among these medical reserve officers are many of the most prominent men in our profession, including the leading men in the specialties, as well as our best surgeons and internists.

When the war broke out there were less than 450 medical officers in the regular Army Medical Corps. Today there are commissioned, including officers of the regular Army, the National Guard and the Medical Reserve Corps, at least 17,000 physicians. Less than 1,000 are in the regular Army Medical Corps. Under the present law these regular Medical Corps officers are entitled to the grades of lieutenant-colonel and colonel; and in the case of the surgeon-general, to that of brigadier-general; the highest rank that can be conferred on any one of the other 16,000—that is, on any reserve medical officer—is that of major.

May we remind our readers that the men in active service will be prevented by the regulations from using their influence in this matter, and that the duty of pushing this measure rests on those who stay at home? Every physician has representing him in Congress one man in the House of Representatives and another in the Senate. If every physician will let his representatives know that this proposed measure should become a law, and if in addition he will enlighten his neighbors in regard to the matter, an effective public opinion will be created. The time is opportune; congressmen are at their homes. Write or speak to your representatives now; get your neighbors to do likewise—not for the good of the medical profession, but for the good of the service.—Journal American Medical Association, Nov. 10, 1917.

SOCIETY PROCEEDINGS

The annual meeting of the Monona County Medical Society was held at Castana, November 22. Officers were elected for 1918 as follows: President, M. O. Stauch, Whiting; vice-president, F. J. Scheffler, Onawa; secretary and treasurer, F. S. Spearman, Whiting; censor, M. F. Minthorn, Castana; delegate to State Medical Society meeting, F. J. Scheffler; alternate, M. F. Minthorn.

It was decided to have a banquet in the near future for all the physicians in the county, at which the matter of increasing the fee bill should be considered.

The regular meeting of the Polk County Medical Society was held at the Hotel Savery, November 27.

Tom B. Throckmorton presented the subject: Traumatic Epilepsy, Complicated after Fifteen Years by Traumatic Cerebral Hemorrhage—Operation—Apparent Recovery. A man when thirty-seven years of age was rendered unconscious by a fall from the roof of a building. Four years later without warning or apparent provocation, he was seized with an attack of major epilepsy; four years later, a second attack occurred, since which time the epileptic seizures became more and more frequent, even occurring during his sleep. Sometimes several attacks were entertained weekly. When fifty-two years of age, fell during an attack and fractured skull. Following the primary loss of consciousness, the secondary lapse did not occur until six days following the injury. The fracture of the right parietal bone was clinically evident by pain on pressure over the area; Battle's sign, the "cracked pot" note elicited on percussion, and a skiagram of the head showing a hair line fracture. To relieve the symptoms of increased intracranial pressure due to hemorrhage, the skull was opened along the course of the fracture, the dura incised and a subdural clot removed. Post operative course was uneventful; apparently a good recovery ensued as all symptoms of brain pressure were relieved.

No epileptic seizures have been observed during the twenty-six months now elapsed since the operation was performed.

M. L. Turner presented the subject, Infantile Scurvy. The essayist called attention to the fact that scurvy occurring in adult life is mentioned in early medical literature. Barlow, in 1883, reported thirty-one cases of scurvy in infants. The use of artificial and proprietary foods is counted a prolific source for the production of this disease. For many years it was held that scorbutis was a disease of infancy due to a continuous use of some artificially prepared food which lacked some of the essential elements required for nutrition.

In a report of the American Pediatric Society in 1891 concerning the disease, it was shown that of four hundred and eighteen cases studied, twelve were breast fed, five were given raw cow's milk, twenty were given pasteurized milk, sixty were given condensed milk, one hundred and seven were given sterilized milk, and two hundred and fourteen were given proprietary foods.

The tendency to superiosteal hemorrhage and the occurrence of periosteal spots were clinical points emphasized by the essayist. The free use of orange juice, vegetables and raw cow's milk is essentially necessary and indicated in the treatment.

The Ringgold County Medical Society held their annual meeting at the office of C. T. Lesan, Mt. Ayr, November 14 with a full representation of the physicians in the county present. The officers elected for the year are: President, L. F. Talley, Diagonal; vice-president, O. L. Fullerton, Redding; secretary-treasurer, J. W. Hill, Ellston.

The annual meeting of the Wayne County Medical Society was held at Corydon, November 8, when the following officers were elected for the coming year. President, D. E. Williams, Allerton; vice-president, Wm. G. Walker, Corydon; secretary-treasurer, Alice E. Burton Booth, Corydon; delegates, H. T. Smith, Humeston and K. R. Huff, Lineville.

The autumn meeting of the Austin Flint-Cedar Valley Medical Society was held at Waverly, November 13, under the presidency of L. C. Kern of Waverly.

With the usual large number in attendance, the meeting was called to order at 10:30 A. M. In the absence of the secretary, A. D. McKinley of Des Moines, J. E. Brinkman of Waterloo, was appointed secretary pro tem.

The scientific session was opened with a paper on Malignant Endocarditis, by Will L. Hearst of Cedar Falls; followed by a paper on Some Details in Abdominal Surgery, by A. J. Farnham of Traer. The morning session closed with a paper by Robert H. Lott of Waverly, on Some Stomach Analyses. A number of charts were exhibited in connection with the presentation of this subject.

The discussion of Dr. Lott's paper opened the afternoon session. Frank R. Sparks of Waverly, read a paper on Mesenteric Embolism, With Report of a Case. Charles J. Rowan of Iowa City, was invited by the chairman to open the discussion on this subject. Dr. Rowan presented an interesting discussion before the society on the subject of Neuro Enteric Cysts.

Some Troublesome Fractures, was the subject of a paper by W. H. Fox of Waucoma.

Arthur H. Hamilton of Minneapolis, the guest of the society, had a very interesting paper on Changes in the Nervous System in Pernicious Anemia. Dr. Hamilton illustrated with slides sections of the spinal cord and brain in connection with his paper.

Pathological Lying, was the subject of a talk by Frank A. Ely of Des Moines.

R. A. Weston of Des Moines, had for his subject,

Some Interesting Urologic Cases, in relation to which he exhibited a number of photographic specimens and x-ray plates.

The closing paper on the program was read by Nicholas Schilling of New Hampton—Indications for Cesarean Section, was the subject considered.

Free and interesting were the discussions that followed the reading of the various papers.

The next meeting of the society will be held at Mason City. At this meeting, the following were voted into membership: Wm. H. Ross, Robert H. Lott and A. J. Joynt of Waterloo; Hall H. Thomas of Decorah; Edward D. Allen of Hampton; and W. H. Thomas of McGregor.

The session closed with a banquet at the Congregational church with T. U. McManus of Waterloo, acting as toastmaster. Responses to toasts and musical selections added to the enjoyment of the evening.

The officers of the society are: President, L. C. Kern, Waverly; vice-president, C. E. Dakin, Mason City; secretary, A. D. McKinley, Des Moines; treasurer, J. G. Evans, New Hartford.

RESOLUTIONS—TRI-STATE DISTRICT MEDICAL SOCIETY

Resolutions presented at the second annual and clinical meeting of the Tri-State District Medical Society held at Hotel Julien, Dubuque, September 4, 5 and 6.

Be it Resolved that we, the members of the Tri-State District Medical Society, in convention assembled, do hereby express our sincere appreciation and thanks for the splendid hospitality extended to us by the people of Dubuque.

We are especially indebted to the members of the Dubuque County Medical Society and the ladies of Dubuque associated with them for their interesting efforts and generous entertainment.

And be it further resolved, that we wish to sincerely thank the guests of this society, for their able papers and their interesting clinics.

Be it Further Resolved, that the following guests be made honorary members of this society: Dr. C. W. Hopkins of Chicago; Dr. Edward Oschner of Chicago; Dr. William A. Pusey of Chicago; Dr. John B. Deaver of Philadelphia, and Dr. Charles H. Mayo of Rochester.

Be it Further Resolved, that we extend our thanks to their excellencies, Governors Frank O. Lowden of Illinois, and William L. Harding of Iowa, for their presence and participation in our meeting.

Be it Further Resolved, that the members of this society in convention assembled, pledge their unswerving loyalty and service to the Government of the United States in the great conflict in which it is engaged, and that they express their unanimous and whole-hearted commendation of the patriotic utterances and acts of the governors of Iowa, Illinois and Wisconsin, the great commonwealth of the Middle West, whose sons have proudly borne their banners to the forefront on every occasion of national stress and peril.

Signed.

William A. Cunningham, Platteville, Wis.
Chairman.
T. W. Nuzum, Janesville, Wis.
A. Alguire, Belvidere, Ill.
J. C. Hancock, Dubuque, Ia.
C. L. Best, Freeport, Ill.
Edwin S. Gillespie, Winona, Ill.
Committee on Resolutions.

The officers elected at this meeting for the ensuing year were: Honorary president, James R. Guthrie, Dubuque; president, W. B. Peck, Freeport, Ill.; first vice-president, C. A. McGuire, Dubuque; second vice-president, E. S. Gillispie, Winona, Ill.; third vice-president, Lawrence H. Prince, Madison, Wis.; secretary-treasurer, Nelson C. Phillips, Freeport, Ill.

An invitation was presented from the Madison Board of Commerce for the next annual session of the society to be held in Madison. It was voted to accept the invitation, and the 1918 meeting of the Tri-State District Medical Society will be held at Madison, Wis.

The excellent program for this meeting, as announced in the August issue of the Journal, was carried out in detail with a few exceptions, and rarely has there been held in this state a medical meeting excelling in enthusiasm, interest and profit this gathering at Dubuque.

DEATHS

Margaret A. Cleaves, M.D., of Yonkers, New York, formerly of Davenport, died in a hospital at Mobile, Alabama, November 14, aged sixty-nine years. Dr. Cleaves was a Fellow of the American Medical Association as well as a member of the medical societies of New York. She was at one time an assistant physician at the State Hospital for the Insane at Mt. Pleasant; and physician in charge of the female department of the Hospital for the Insane at Harrisburg, Penn. Dr. Cleaves was the founder and director of the New York Electro-Therapeutic Clinic Laboratory and Dispensary.

Jacob Cullen Barr, M.D., aged eighty-seven; Medical College of Ohio, 1857; major and surgeon of the First Ohio Infantry throughout the Civil War; one of the oldest physicians registered in Illinois, died at his home in Keokuk, November 13, from cerebral hemorrhage.

Jesse D. Elliott, M.D., aged sixty-five; College of Physicians and Surgeons, Keokuk, 1882; member of the Page County and Iowa State Medical Societies; at one time a representative in the General Assembly from Page county; a practitioner at Hawleyville for a number of years, died November 10, in a hospital at Moline, Illinois from cancer.

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